

# **Exploiting Combat Experience: The U.S. Forces European Theater Study of Mechanized Cavalry Units**

**A Monograph  
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# **Abstract**

**EXPLOITING COMBAT EXPERIENCE: THE U.S. FORCES EUROPEAN THEATER STUDY OF MECHANIZED CAVALRY UNITS** by LTC Christopher N. Prigge, U.S. Army, 73 pages.

The U.S. Forces European Theater General Board study of mechanized cavalry units illustrates how a systemic study of combat experience can guide interconnected changes to military doctrine, organizations, and equipment. The General Board conducted its study of mechanized cavalry units between September 1945 and January 1946. The study's final report recommended that the Army create a corps cavalry regiment that would perform the full range of traditional horse cavalry missions, including reconnaissance, security, offensive combat, defensive combat, and special operations. In early 1946, planners designing the force structure of the U.S. Zone Constabulary based the design of the constabulary regiments upon the organization proposed by the General Board. The General Board study of mechanized cavalry units also influenced post-war boards that proposed changes to the doctrine, organization, and equipment of future armored units. In 1948, Army Field Forces created a new type of unit, the Armored Cavalry Regiment (Light). The design of this organization, the selection of its equipment, and its doctrine were guided by the recommendations from the General Board study. This type of regiment was unusual; the U.S. Army was the only NATO or Warsaw Pact country to organize a corps cavalry regiment with a broad mission profile rather than relying upon smaller units designed strictly for reconnaissance. Armored Cavalry Regiments remained part of the U.S. Army's force structure until 2011. Thus, the General Board's recommendations had a significant long-term influence on the U.S. Army. The work of the General Board illustrates a way to study doctrine, organization, and equipment comprehensively in light of recent combat experience and demonstrates the value that such a study can have for the Army.

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## Introduction

Learning from current operations and preparing the U.S. Army for future wars are important tasks. Today different organizations within U.S. Army Training and Doctrine Command analyze selected aspects of current operations to inform changes to tactical techniques, procedures, equipment, and organization, but the focus of these studies are on specific discrete problems rather than systemic assessments of a type of unit or a warfighting function. The Center for Army Lessons Learned analyzes current operations in order to transform “training, doctrine and leader development,” but it does not address changing organization or equipment.<sup>1</sup> The Future Force Integration Directorate of the Army Capabilities Integration Center also analyzes combat experience, but the purpose of its analysis is limited to equipment modernization. Other directorates of the Army Capabilities Integration Center examine future warfare and organization, but since the Army After Next program, these efforts have not been integrated and their scope has been narrowly focused. Each of these efforts perform a necessary function, but missing from the Army’s efforts to change and adapt are holistic studies that assess doctrine, training, leader development, organization, and equipment for an entire unit or warfighting function based upon recent combat experience.<sup>2</sup>

The U.S. Forces European Theater (USFET) General Board study of mechanized cavalry units that was conducted in Germany in the fall of 1945 is a useful example of such a study. The lessons learned from this one study guided armored cavalry doctrine, organizations, and equipment for more than sixty years. Between July 1945 and January

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<sup>1</sup> Center for Army Lessons Learned, "CALL's Mission," United States Army Combined Arms Center <http://usacac.army.mil/cac2/call/mission.asp> (accessed 6 December 2010).

<sup>2</sup> Army Capabilities Integration Center, "Directorates," Army Capabilities Integration Center <http://www.arcic.army.mil/directorates.htm> (accessed 6 December 2010).

1946, the General Board studied a wide range of issues, examining 131 topics as diverse as campaign strategy and graves registration. The President of the General Board regarded the mechanized cavalry study as one of the two most contentious that the board undertook in part because large unit commanders had routinely failed to follow doctrine when employing mechanized cavalry units. Doctrine had shaped the design of mechanized cavalry organizations and the selection of their equipment. When commanders did not follow doctrine, the natural result was that shortfalls in organization and unsuitable equipment put soldiers at risk on the battlefield.

This monograph describes the organization of the General Board, the conduct of the mechanized cavalry study, and the impact of its recommendations in order to draw lessons about the value and conduct of this type of study. The Army has gained considerable combat experience since the terrorist attacks of September 2001, but it has not examined this experience as thoroughly as the General Board studied the European campaigns in 1945. The Army has not holistically examined a type of unit or warfighting function in combat in order to make significant and comprehensive changes to doctrine, organization, equipment, and training. The conduct and impact of the mechanized cavalry study suggests the value of assessing recent combat operations this way.<sup>3</sup>

Although the primary focus of this monograph is the organization, conduct, and impact of the study, these cannot be appreciated fully without discussing its subject. Therefore, the monograph also traces a number of issues that explain the origins of U.S. Army armored cavalry regiments. The first part describes how corps commanders employed mechanized cavalry groups in 1944-1945 and compares this to the mission of

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<sup>3</sup> United States Forces General Board, European Theater, Study Number 49: Mechanized Cavalry Units, January 1946, File 97-USF5-0.3.0 (22549), Entry 427, RG 407, NA, 1.

mechanized cavalry units prescribed in doctrine. This brief survey demonstrates the dissonance between doctrine and employment and briefly mentions some of the most significant organizational and equipment shortfalls. The second and longest part describes how units recorded their experience while in combat, the organization of the General Board, and the conduct of the mechanized cavalry study. The third and final part examines the significant impact of the study on armored cavalry doctrine and organization over the next sixty years.

The mechanized cavalry study demonstrates that combat experience must be studied when memories are still fresh. It also clearly demonstrates the value of creating and maintaining a historical record of combat operations as they occur, despite the time and manpower this requires. Those conducting a study of combat operations must have access to such records in order to base their conclusions on facts. They also must be professional soldiers who are experts in the subject by virtue of their own combat experience, yet they must be willing to consider, record, and evaluate opposing viewpoints. Finally, theater-level commanders must plan ahead for studying combat operations in order to guarantee access to the experts, to minimize the delay between combat and assessment, and to provide key decision makers with recommendations in a timely manner.

### **The Mechanized Cavalry Group**

The mechanized cavalry study examined three different types of mechanized cavalry units (see figure 1). Two of these were division cavalry units assigned to each infantry and armored division. Each infantry division was assigned a mechanized cavalry



reconnaissance troop as its division cavalry and each “light” armored division<sup>4</sup> was assigned a mechanized cavalry reconnaissance squadron. The squadrons had a headquarters troop, four reconnaissance troops, a light tank company, and an assault gun troop. The four reconnaissance troops in this squadron were identical to the reconnaissance troops assigned to each infantry division. The General Board mechanized cavalry study discussed these division cavalry units, but they were not the center of its attention. Separate General Board studies of infantry divisions and armored divisions addressed the future organization of these division cavalry elements.<sup>5</sup>

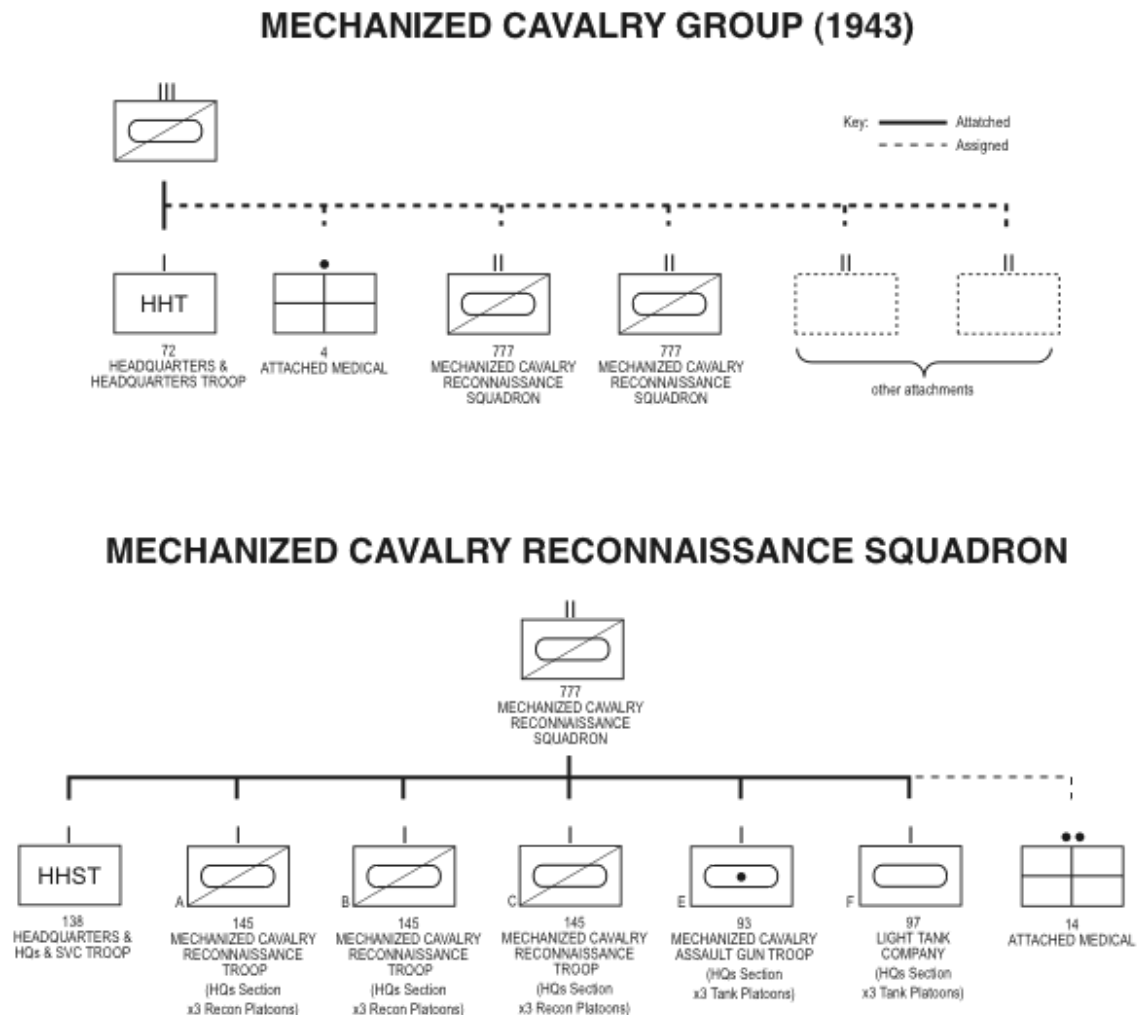
The focus of the mechanized cavalry study was the third type of unit, the mechanized cavalry group attached to each corps. In 1942-1943, the troop basis for each corps included a mechanized cavalry regiment. However, in order to enhance flexibility, the War Department broke up all non-divisional regiments and replaced them with the group organization. Unlike a regiment, which had organic subordinate units, a group was merely a task force headquarters to which up to four battalions or squadrons could be attached. The only permanently assigned unit in a group was its headquarters company. In late 1943 and early 1944, Army Ground Forces applied this organizational paradigm to the mechanized cavalry. Mechanized cavalry regiments were reorganized as mechanized cavalry groups. Although their two squadrons were thereafter organized as independent

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<sup>4</sup> All but two armored divisions were so-called "light" armored divisions, which had three tank, three infantry, and three artillery battalions for a total of nine. 2nd and 3rd Armored Divisions were called "heavy" armored divisions because they remained organized under an older table of organization with twelve battalions: six tank, three infantry, and three artillery. An armored reconnaissance battalion served as the division cavalry in these two "heavy" divisions.

<sup>5</sup> United States Forces General Board, European Theater, Study Number 15: Organization, Equipment and Tactical Employment of the Infantry Division, January 1946, File 97-USF5-0.3.0 (22515), Entry 427, RG 407, NA, 11. United States Forces General Board, European Theater, Study Number 48: Organization, Equipment and Tactical Employment of the Armored Division, January 1946, File 97-USF5-0.3.0 (22548), Entry 427, RG 407, NA, appx. 7.

units, they remained with their associated group headquarters throughout the fighting in



**Figure 1. Mechanized Cavalry Group, September 1943.<sup>6</sup>**

Europe. They were rarely detached, and then usually for short periods. Thus, in marked contrast to other supporting arms that employed the group organization, cavalry groups functioned more like a regiment with permanently assigned squadrons.

In terms of organization and equipment, the squadrons attached to cavalry groups

<sup>6</sup> Note that a squadron in an armored division had an additional reconnaissance troop (D Troop), which is not shown on this diagram. T/O&E 2-27, *Cavalry Reconnaissance Troop, Mechanized* (Washington, D.C., 1 March 1943). T/O&E 2-25, *Cavalry Reconnaissance Squadron, Mechanized* (Washington, D.C., 15 September 1943). T/O&E 2-22, *Headquarters and Headquarters Troop, Cavalry Group, Mechanized* (Washington, D.C., 13 October 1943). Circular 256, *Reorganization of Corps Headquarters and Organic Troops* (Washington, D.C., 16 October 1943).

and the squadrons assigned to armored divisions were nearly identical. The primary difference was that the squadron in the armored division had four reconnaissance troops and eight assault guns in its assault gun troop, while the squadron attached to a cavalry group had three reconnaissance troops and six assault guns. Therefore, aspects of the mechanized cavalry report that dealt with equipment, training, tactics, and employment affected all of these units to some degree.

Training Circular 107 defined the mission of the new mechanized cavalry units in September 1943. They were to be “organized, equipped, and trained to perform reconnaissance missions employing infiltration tactics, fire, and maneuver.”<sup>7</sup> Although the circular mentioned fire and maneuver, the purpose of these units was reconnaissance, not combat: “They engage in combat only to the extent necessary to accomplish the assigned mission.”<sup>8</sup> The correct reconnaissance technique was for “cavalry reconnaissance units [to] employ infiltration tactics rather than combat to gain information. They seek unopposed routes of advance to gain observation points . . . . When stealth fails, reconnaissance units engage in combat with enemy forces which threaten the success of the mission.”<sup>9</sup> Reconnaissance units were to maintain a reserve in order “to pass through a gap or weak point in the enemy’s security screen, to pass around his flank,” or “to create a gap in the enemy’s screen in an area which favors subsequent reconnaissance operations.”<sup>10</sup> Following the publication of the circular, training centers and schools in the United States emphasized the use of infiltration tactics and stealth

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<sup>7</sup> TC 107, *Employment of Mechanized Cavalry Units* (Washington, D.C., 21 September 1943), 1.

<sup>8</sup> Ibid.

<sup>9</sup> Ibid., 3.

<sup>10</sup> Ibid., 3-4.

when training mechanized cavalrymen.

The doctrine and design of mechanized cavalry units were based upon an operational concept that assumed it would be possible to find open flanks and reconnoiter enemy positions without engaging in sustained combat. The early campaigns of the war in Poland, France, Libya, and the Soviet Union had this dynamic. The mobility difference between forces that were mechanized and those that were not, combined with the expanse of the theaters of operation in the North Africa and Russia, created wide gaps and open flanks that reconnaissance units could successfully infiltrate using stealth.<sup>11</sup> However, by the start of OVERLORD in June 1944, the reality on the battlefield was much different.

The 113th Mechanized Cavalry Group was one of the first corps cavalry groups to fight in Normandy. A few days after entering the front lines in early July 1944, the group participated in a XIX Corps attack south toward St-Lô. On 7 July, one regiment from the 30th Infantry Division crossed the Vire River and another crossed the Vire-et-Taute Canal. Engineers established vehicle bridges at the crossing sites, facilitating the expansion of both bridgeheads. The division attacked to seize key high ground to the south that overlooked the approach to St-Lô between the Vire and Taute Rivers. The corps directed the 113th Cavalry to cross the Vire-et-Taute Canal, turn west, and guard the west flank of the corps as the 30th Infantry Division moved south (see figure 2). The flooded lowlands on either side of the Taute River on the western boundary of the corps created an impassable gap between the XIX Corps and the neighboring VII Corps on its right. Since an earlier VII Corps attack had stalled, the XIX Corps would expose its right flank the further it advanced beyond the canal. Securing an open flank like this had been

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<sup>11</sup> Lesley J. McNair, Draft Reply to Letter of General Devers [18 July 1942] to General McNair, n.d. 1942, File McNair's Correspondence, 1942-44, A to I, Box 9, Entry 58A, RG 337, NA.

a traditional horse cavalry mission. However, the War Department had designed mechanized cavalry strictly for stealthy reconnaissance, not for a security mission that required heavy combat.

The actual employment of the 113th Cavalry Group during this operation strayed even further from doctrine. As the group commander, Col. William S. Biddle, wrote afterwards, “The mission assigned the Group was conceived as being a Cavalry type mission; but it developed into a infantry-type mission at the very start of the operation.”<sup>12</sup> After crossing the canal, both of the squadrons in the group, the 113th and 125th Mechanized Cavalry Reconnaissance Squadrons, turned west toward their objectives on the high ground between Graignes and Le Mesnil Angot.<sup>13</sup> However, they were not able to advance that far.

The first objective of the 113th Reconnaissance Squadron was the town of Goucherie. The squadron moved directly towards Goucherie after crossing the canal, but ran into a strongpoint manned by a German *Ostmark* battalion of the *275th Division*. The combination of narrow country tracks, mud, and steep Norman hedgerows made a frontal attack difficult, and the squadron could not advance in its thinly armored jeeps, armored cars, light tanks, and assault guns. The defenders had antitank and crew-served weapons covering the roads and the fields between the hedgerows. This forced the squadron to park its vehicles in an assembly area, dismount, and envelop the strongpoint on foot as infantry. The Czech and Polish soldiers in the strong point surrendered, but after seizing

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<sup>12</sup> 113th Cavalry Group, Operations 113th Cavalry Group, 02-10 July 44, 7 August 1944, File CAVG-113-0.3 July 1944, Box 18050, Entry 427, RG 407, NA, 6.

<sup>13</sup> 113th Cavalry Group, Field Order #1, 041200B July 1944, File CAVG-113-0.3 July 1944, Box 18050, Entry 427, RG 407, NA, 1.

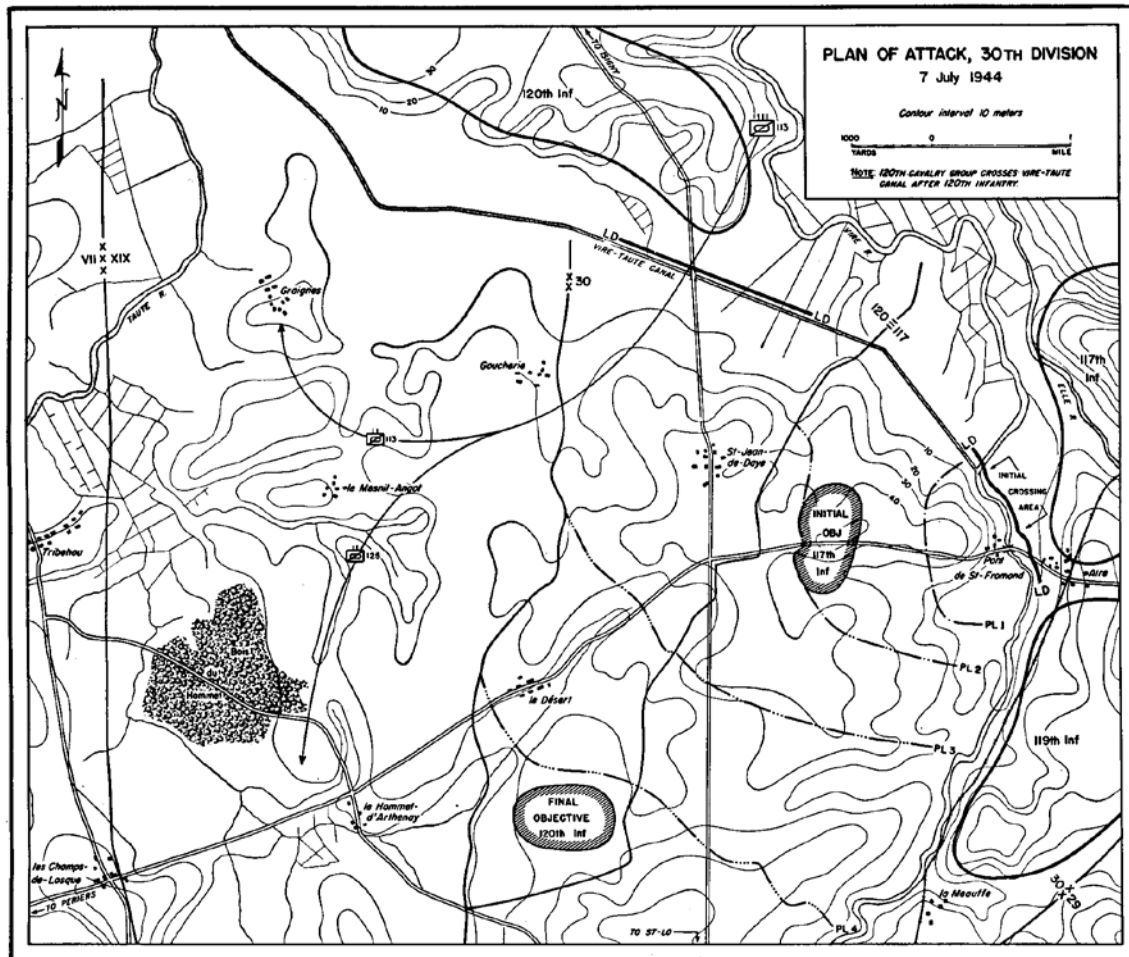


Figure 2. XIX Corps Plan of Attack, 7 July 1944<sup>14</sup>

the town, the squadron lost several hours bringing its vehicles forward. This engagement highlighted the dearth of dismounted soldiers in a mechanized cavalry squadron.<sup>15</sup> All of its vehicles had small crews and could not afford to dismount a driver, vehicle commander, gunner, or radio operator without losing a critical function. The only solution, which was awkward, was to park the vehicles in a protected area and dismount entire crews.

<sup>14</sup> David Garth, and Charles H. Taylor, *St-Lô* (Washington, D.C.: Historical Division, U.S. War Department, 1946; reprint, Center of Military History, 1994), 10.

<sup>15</sup> Ibid., 19-20. Martin Blumenson, *Breakout and Pursuit*, United States Army in World War II. The European Theater of Operations (Washington, D.C.: Center of Military History, 1961; reprint, 1989), 94-95. 113th Cavalry Group, Operations, 2-10 July 44, 2.

Doctrine and the design of mechanized cavalry organizations had not anticipated this requirement in spite of history. Ever since 1863, American horse cavalry tactics combined mounted maneuver and dismounted fighting.<sup>16</sup> Field Manual (FM) 100-5, *Operations*, published on 15 June 1944—just three weeks before the fighting at Goucherie—stated, “Horse cavalry habitually maneuvers mounted, but ordinarily fights on foot. As a rule, mounted maneuver is combined with dismounted action.”<sup>17</sup> However, whereas horse cavalry was designed for a broad range of missions, mechanized cavalry was designed for just one: reconnaissance.<sup>18</sup> Further hampering the ability of the mechanized cavalry to fight as infantry was the shortage of rifles in each troop. In a horse cavalry rifle troop, each trooper was armed with an M1 Garand, but in a mechanized cavalry reconnaissance troop there were more soldiers equipped with carbines than with rifles. The M1 Carbine was adequate as a secondary defensive weapon for a vehicle crewman, but it was entirely inadequate for a dismounted assault.<sup>19</sup>

The 125th Reconnaissance Squadron followed the 113th across the Vire-et-Taute canal. One troop enveloped the hamlet of le Mesnil-Véron using good roads, catching the defenders by surprise. However, a few hours later the squadron ran into stiff resistance 1500 yards southwest of the hamlet at a road junction called la Caplainerie. The defenders at this position belonged to the *38th SS Panzer Grenadier Regiment*,

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<sup>16</sup> Stephen Z. Starr, *The Union Cavalry in the Civil War, Volume II: The War in the East from Gettysburg to Appomattox, 1863-1865* (Baton Rouge: Louisiana State University Press, 1981), 32.

<sup>17</sup> FM 100-5, *Field Service Regulations, Operations* (Washington, D.C., 15 June 1944), 9.

<sup>18</sup> FM 2-15 describes the mission profile of both types of cavalry as of April 1941. FM 2-15, *Cavalry Field Manual, Employment of Cavalry* (Washington, D.C., 8 April 1941), 5. In September 1943, Training Circular 107 revised and restricted the mission of mechanized cavalry to reconnaissance alone. TC 107 (1943), 1. These changes were summarized in June 1944 in FM 100-5. FM 100-5 (1944), 8-10.

<sup>19</sup> 113th Cavalry Group, *Operations*, 2-10 July 44, 6. A 145-man reconnaissance troop had ninety-one men armed with the M1 Carbine and only twenty-seven with the M1 Rifle. T/O&E 2-27 (1 March 1943), 3.

“practically all Nazis, young, tough and excellent soldiers.”<sup>20</sup> The narrow country roads and high hedgerows around la Caplainerie again canalized the reconnaissance squadron’s lightly armored vehicles. The squadron was also forced to dismount and assault like infantry, but had too few men to hold the ground it gained. A counterattack forced the squadron to withdraw, and it established a series of roadblocks defending the gap around le Mesnil-Véron between the flank of the 30th Infantry Division on its left and the 113th Reconnaissance Squadron on its right. Each roadblock was composed of two light tanks and a squad of twelve men dug in around the tanks. The jeeps and armored cars were parked to the rear. During daylight, dismounted patrols probed forward of the roadblocks but gained little information about the enemy.<sup>21</sup>

The next day, both squadrons were ordered to seize higher ground 1000 yards west of the two towns in order to expand the bridgehead to gain room for the introduction of a new infantry division. The mission was, in the words of one of the squadron commanders, “strictly an assault, and as such there was a decided deficiency of men on the ground.”<sup>22</sup> The squadrons found that their vehicles, machine guns, and mortars gave them enough firepower to attack successfully, but they again lacked enough riflemen to hold what they had gained.

Although mechanized cavalry reconnaissance units did serve in fast moving operations where they could reconnoiter stealthily, which soldiers called “sneaking and peeking,” the frequency and intensity of combat created “deep seated resentment” and

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<sup>20</sup> 113th Cavalry Group, Operations, 2-10 July 44, 5.

<sup>21</sup> Lt. Col. Jeff F. Hollis, Comments and Observations of Operations Conducted by This Organization, 04 July 44 - 10 July 44, 12 July 1944, Microfilm Reel 4, Item N-3344, Army Ground Forces Reports, Part 1, CARL, 1.

<sup>22</sup> Ibid., 2.



“bitterness” within some units, particularly those that had remained in the United States long enough to have been thoroughly indoctrinated in the reconnaissance technique prescribed in Training Circular 107. For instance, the 101st Mechanized Cavalry Group did not move overseas until October 1944, more than a year after the publication of the circular.<sup>23</sup> According to a survey conducted by the group S3,

Having been thoroughly indoctrinated with the idea that mechanized cavalry’s fundamental mission was “sneak and peek” reconnaissance, the reaction to repeated and almost continuous fighting missions by both officers and enlisted men was that they had been misused and otherwise imposed upon and, this, in spite of the fact that they had carried out their fighting missions admirably.<sup>24</sup>

The commander of the division cavalry squadron in the 5th Armored Division agreed, writing in January 1945, “Too much time was spent back in the States sneaking and peeping and not enough time on combat training. Since landing in France, we have done little sneaking and peeping. When close enough to the enemy to gain information we usually have to fight for it, and we found at the start that our troops didn’t fight well enough.”<sup>25</sup>

The problem in doctrine, training, and equipment undermined the aggressiveness of some mechanized cavalry units when they faced combat for the first time. Col. Charles T. Lanham, the commander of the 22nd Infantry Regiment, 4th Infantry Division, wrote a scathing critique on the mechanized cavalry units he had worked with during the drive on Cherbourg in June 1944:

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<sup>23</sup> Mechanized 101st Cavalry Group, *Wingfoot: Rhineland and Central Europe Campaigns*, ed. Mercer W. Sweeney (Weinheim, Germany: Printed by H. Diesbach, 1945), 97.

<sup>24</sup> Mechanized 101st Cavalry Group, Memorandum to Commanding General, United States Forces, European Theater, Subject: Submission of Recommendations for Changes in Tables of Organization and Equipment, 17 August 1945, File Entry 17 of Box 46, Box 5, Entry 41987, RG 338, NA, exhibit B, p. 1.

<sup>25</sup> Headquarters, European Theater of Operations, Immediate Report No. 37, 29 January 1945, Box 6, Entry 41987, RG 338, NA, 3.

My experience with cavalry units that have been attached to my regiment has convinced me that I would be better off without them. I have never received any information from them that has been accurate, and it is always third, fourth, or fifth hand information. On one occasion, I met a unit on the road who inquired how far they could safely advance down the road. The fault is in training them that they should be able to gain information without becoming engaged in a fire fight. They must be trained to take losses in order to accomplish their missions.<sup>26</sup>

The inexperience of the squadron attached to Colonel Lanham's infantry regiment undoubtedly contributed to his assessment. This squadron from the 4th Cavalry Group had landed at Utah Beach the day before it entered combat for the first time with his regiment. However, a few weeks later, the commanding general of the 101st Airborne Division, Maj. Gen. Maxwell Taylor, commended the members of the same squadron for their initiative, patrolling, and "high state of morale and training."<sup>27</sup>

Doctrine, training, and a shortage of riflemen were not the only weaknesses in mechanized cavalry units. They were also hampered by an equally flawed American conception of combat between armored vehicles, which in turn retarded the deployment of sufficiently lethal tanks. Although mechanized cavalry units were well equipped with radios, machine guns, and mortars, their tank killing firepower was exceptionally weak. The M8 armored cars in the reconnaissance troops and the M5 light tanks in the tank company were both armed with the 37mm cannon, which was effective against infantry, but useless against the latest German tanks. The most effective heavy ordnance in each squadron was the six M8 Howitzer Motor Carriages in the assault gun troop. However,

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<sup>26</sup> Headquarters, 12th Army Group, Immediate Report No. 33, Comments of Colonel C. T. Lanham, Commander, 22nd Infantry Regiment, 18 August 1944, Box 6, Entry 41987, RG 338, NA, 1; emphasis added.

<sup>27</sup> Mechanized 24th Cavalry Reconnaissance Squadron, History of the 24th Cavalry Reconnaissance Squadron Mechanized from 5 June 1944 through 28 June 1944, n.d. 1944, Microfilm Reel 1, Item N-3538, Army Ground Forces Reports, Part 1, CARL, 1. Maxwell D. Taylor, Letter to CO, 4th Cavalry Group, Subject: Commendation, 9 July 1944, File CAVG-4-0.1, Box 17981, Entry 427, RG 407, NA.

these were low-velocity 75mm howitzers, and, in one engagement in September 1944 near Lunéville, France, gunners from the 2nd Cavalry Group were “more than ‘dismayed’ to see their shells bounce off [Mark V and Mark VI] German tanks.”<sup>28</sup> However, after the breakout from Normandy, the operational environment was more conducive to cavalry operations, and by then other capabilities such as tanks, tank destroyers, artillery, and combat engineers were available for attachment to the mechanized cavalry groups to cover their organizational weaknesses.

During the eleven months of the campaign in Western Europe, the mechanized cavalry groups proved useful, and most senior commanders recommended that some type of improved corps cavalry unit remain in the Army’s force structure. The commander of III Corps, Maj. Gen. James A. Van Fleet, wrote, “Each corps with which I am familiar always had a Group attached to it. Such a light, highly mobile, well armed combat force was invaluable.”<sup>29</sup> Lt. Gen. Wade H. Haislip, who commanded XV Corps from February 1943 to the end of the war, noted that “The 106th Cavalry Group has been attached to me during the time I commanded the XV Corps and operated with me from AVRANCHES France to STROBL Austria, covering a period of some ten months of combat. I had occasion to make a very close observation of its operations.” In his opinion, “This type of organization has proven itself to be invaluable to a Corps Commander.”<sup>30</sup> Nevertheless, the mismatch between doctrine and employment raised a number of questions.

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<sup>28</sup> Hugh M. Cole, *The Lorraine Campaign*, United States Army in World War II. The European Theater of Operations (Washington, D.C.: Center of Military History, 1950; reprint, 1997), 220-21. 2Lt Charles K. Howard, Interview, 42nd Cavalry Reconnaissance Squadron, Group Interview, 19-20 June 1945, File 2nd Cavalry Group, Lorraine, 1 Sept - 22 Dec 1944, Box 24105, Entry 427, RG 407, NA, 8.

<sup>29</sup> United States Forces General Board, European Theater, Study Number 49, Mechanized Cavalry (Draft), 17 December 1945, File 320.2/6 Tactics, Employment, Techniques, Organization and Equipment of Mechanized Cavalry Units, Box 3, Entry 41982 UD, RG 338, NA, app. 17, p. 5.

<sup>30</sup> *Ibid.*, app. 17, p. 3.

Fortunately, tactical units recorded their experience in detail during combat operations so that the Army could learn from it both during and after the war.

## **The General Board**

### **Recording Combat Experience**

For combat experience to serve a useful professional purpose, an army must dedicate time and resources to record and study it while memories are still fresh. In the European Theater of Operations, the U.S. Army comprehensively recorded the historical record of individual units and captured lessons during combat operations. Army Regulation 345-105, *Historical Records and Histories of Organizations*, required each regiment, separate battalion or squadron, company or detachment, and larger units to submit an annual organizational history each year and after action reports “after every battle or engagement with the enemy” through channels to the War Department Adjutant General.<sup>31</sup> Staff duty journals, war diaries, message forms, phone conversation records, intelligence reports, maps, operations orders, overlays, and significant notes or memoranda maintained by each unit served as the source material for these reports. Army Regulation 345-105 required units to send these documents to the War Department’s Historical Division once they were no longer required for operations. Since most units in the European Theater never withdrew from the front lines other than for minor lateral movements or short refitting periods, their after action reports covered sequential periods rather than isolated episodes. Some of these reports were exceptionally detailed and contained copies of field orders, overlays, maps, and other source material. At a minimum, each of them consisted of a written narrative that summarized a unit’s daily

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<sup>31</sup> AR 345-105, *Military Records: Historical Records and Histories of Organizations* (Washington, D.C., 18 November 1929), 2.

operations. Headquarters, European Theater of Operations, U.S. Army (ETOUSA) maintained a copy of each report sent to the War Department.<sup>32</sup>

In addition, the War Department Historical Division assigned teams of historians to each of the field armies, and historical detachments interviewed or studied selected combat actions in order to facilitate writing an official history of the campaign. Sometimes the historians conducted these interviews soon after an event, other times they caught up with units after the war in order to fill gaps in the historical record.<sup>33</sup>

There was a similarly comprehensive effort to record combat lessons learned. The War Department created an observers board in the Pacific, Mediterranean, and European Theaters, which assigned combat observers down to corps level to record combat lessons. These lessons ran the gamut from observations about tactical technique to the performance of different weapon systems.<sup>34</sup> Headquarters, Army Ground Forces sent teams of observers to foreign theaters to study particular issues of interest to force developers, doctrine writers, schools, and training centers. Observers from both the War Department and Army Ground Forces acquired lessons for the institutional training base back in the States.<sup>35</sup> Within the European Theater, there was an effort to share the lessons learned in one unit with others throughout the theater. In Normandy, First Army began compiling and publishing these in a series of “immediate reports,” which contained

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<sup>32</sup> Ibid., 2-3. The periodic after action reviews are in Entry 427, RG 407, NA. Some of the written narratives are available in university libraries on microfilm. Unit logs and other primary source material is only available in the National Archives, and the amount of this type of material preserved varies significantly from unit to unit.

<sup>33</sup> The combat interviews are also in Entry 427, RG 407, NA.

<sup>34</sup> U.S. War Department, "Reports C-1 to C-1137, February 1943 - July 1945," Reports of Observer Boards, European Theater of Operations, MHI. This collection is not complete and contains several unnumbered reports. An incomplete collection is also available in Boxes 79-80, Entry 25, RG 337, NA.

<sup>35</sup> Army Ground Forces foreign observer reports are filled in Entry 15A, RG 337, NA.

information that was of immediate use to units engaged on the front lines. Later, 21st Army Group and then ETOUSA assumed responsibility for producing these reports.<sup>36</sup> With this comprehensive effort to record the history and document lessons learned in combat, a substantial body of documentations existed by V-E Day covering almost every tactical and operational aspect of the European campaigns.

### **Studying Combat Experience**

However, studying the combat record, drawing lessons, and making recommendations required experts and time. In the immediate aftermath of the German surrender, experienced officers were busy. U.S. forces in Germany had to establish military government in the U.S. Zone of Occupation; transfer areas under the control of U.S. forces to the forces of other countries; maintain law and order; denazify German institutions; liberate concentration camps; secure historical, artistic, and cultural treasures; house, feed, and control the movement of displaced persons; repatriate former prisoners of war; prepare American soldiers and units for demobilization; and redeploy units to the Pacific Theater for the invasion of Japan. At the same time, the theater command structure changed from combined and joint headquarters responsible for combat operations in a theater of operations to single service headquarters responsible for occupation duty within national zones in Germany and Austria. This required breaking integrated staffs apart, and creating in their place organizations and procedures appropriate for peacetime national administration. This was complicated since both the British and French Armies had drawn logistical support from American supply services

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<sup>36</sup> An index of the immediate reports is contained in Headquarters, European Theater of Operations, Immediate Report No. 141, 24 May 1945, Box 6, Entry 41987, RG 338, NA, 1-7.

during the war. Occupation duty, redeployment, and the transition from wartime to peacetime command structures kept the units remaining in Europe busy.<sup>37</sup>

Nevertheless, General Eisenhower wanted American forces in Europe to record the lessons learned at great cost during campaigns whose operational dynamics were without historical precedent. Before his first visit to the United States after V-E Day in June 1945, he gave instructions to have Fifteenth Army, the most recently activated American field army in Europe, restructured as the European Theater General Board.<sup>38</sup> An ETOUSA general order notified Fifteenth Army of its new mission “to prepare a factual analysis of the strategy, tactics, and administration employed by the United States Forces in the European Theater.”<sup>39</sup> However, Fifteenth Army was unable to work on its new mission for several weeks. Since the end of March, it had served as the military government in the Rhineland, Pfalz, Saarland, and the part of Hessen west of the Rhine. This area of operations straddled the British and French zones of occupation. Second British Army had relieved Fifteenth Army in the northern part of its area of operations in mid-June, and, when notified of its new mission on 17 June, it was preparing to turn over the remaining areas to First French Army four weeks later.<sup>40</sup>

Once the relief was complete, Fifteenth Army transferred, demobilized, or redeployed its subordinate service units. Divested of these duties, the army headquarters moved to Bad Nauheim twenty miles north of Frankfurt am Main and prepared for duty

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<sup>37</sup> Dwight D. Eisenhower, *Crusade in Europe* (Garden City, New York: Doubleday & Company, Inc., 1948), 431-32.

<sup>38</sup> *Ibid.*, 448-52.

<sup>39</sup> Headquarters, European Theater of Operations, United States Army, General Orders 128, 17 June 1945.

<sup>40</sup> Leonard T. Gerow, *History of Fifteenth United States Army, 21 August 1944 to 11 July 1945* (n.p.: 1945), 77-78.

as the General Board. The army commander, Lt. Gen. Leonard T. Gerow, was to serve as the president of the board. Since the functions represented by a field army's general and special staff covered almost all of the areas of interest of the General Board, the headquarters maintained its basic organizational structure. However, since there was no section responsible for armor and cavalry issues, Gerow created an armored section within the special staff. The armored section was responsible for studying issues related to armored divisions, armored groups, GHQ tank battalions, and mechanized cavalry units.<sup>41</sup> Although the staff structure did not change significantly, Eisenhower wanted the officers on the board to be the "most experienced and at the same time most progressive officers we could find."<sup>42</sup> Since Fifteenth Army had arrived late in the European Theater of Operations and played a minor operational role, USFET<sup>43</sup> replaced many of its staff officers with personnel whose experience and expertise was better suited to the mission of the General Board.<sup>44</sup>

The chief of the new armored section was Brig. Gen. Joseph A. Holly, an infantry officer long connected to the development of mechanized cavalry and armor. In 1930-1931, he had served with Col. Daniel Van Voorhis and Lt. Col. Adna R. Chaffee, Jr., in the experimental Mechanized Force at Fort Eustis, Virginia, and made valuable

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<sup>41</sup> William S. Biddle, "The General Board - European Theater," 1946, Box 1946-1947 - 11th Constabulary Regiment, William S. Biddle Papers, MHI, 2. United States Forces General Board, European Theater, Index to Reports of the General Board (by Number, Section, and Subject), January 1946, File 97-USF5-0.3.0, Entry 427, RG 407, NA.

<sup>42</sup> Eisenhower, *Crusade in Europe*, 452.

<sup>43</sup> European Theater of Operations, U.S. Army (ETOUSA) was redesignated U.S. Forces, European Theater (USFET) on 1 July 1945. In modern terms, these headquarters were the Army Service Component Command in Europe. In 1945, doctrine required the change in name since a "theater of operations" only existed during war. FM 100-5 (1944), 1.

<sup>44</sup> Gerow, *History of Fifteenth United States Army*, 15, 24. Fifteenth Army had not become operational in Europe until January 1945 and had not assumed combat duties on the front until late March. Thus, its staff did not have the experience required for the mission of the General Board.



contributions in establishing the mechanized cavalry at Camp Knox in 1932. In 1940, he joined the Armored Force and moved back to Fort Knox, where he served for three and a half years as an instructor and commandant of the Armor School. In February 1944, he became the chief of ETOUSA's armored fighting vehicles and weapons section, where he was instrumental in hastening production of the M26 Pershing heavy tank. Holly was well connected with armored and mechanized cavalry leaders and familiar with the combat experience of both communities.<sup>45</sup>

As the new staff was assembling, the secretariat of the General Board assigned subjects to each staff section, issued procedures for conducting the studies, and prescribed the format of the reports, including matters of style like the use of citations and capitalization. The secretariat assigned six subjects to the armored section, including the mechanized cavalry study. Once assigned to lead a study, a staff section composed a directive that identified the mission, scope, source material, participants, and special instructions for the study and submitted the directive to the secretariat for approval. The original concept for the operation of the General Board envisioned members from several relevant staff sections collaborating in the production of a single study under the direction of the lead staff section. The original committee designated to conduct the mechanized cavalry study included representatives from the G2, G3, G4, artillery, air ground liaison, engineer, ordnance, and signal sections. However, as the first studies began in August,

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<sup>45</sup> George W. Cullum, *Biographical Register of the Officers and Graduates of the U. S. Military Academy at West Point, New York, since Its Establishment in 1802, Supplement 1930-1940*, ed. E. E. Farman, vol. 8 (Chicago: R. R. Donnelly and Sons, 1940), 433. Robert W. Grow, "The Ten Lean Years: From the Mechanized Force (1930) to the Armored Force (1940)," 1969, Robert W. Grow Papers, MHI, 22. George W. Cullum, *Biographical Register of the Officers and Graduates of the U. S. Military Academy at West Point, New York, since Its Establishment in 1802, Supplement 1940-1950*, ed. Charles N. Branham, vol. 9 (n.p., 1955), 316. Lida Mayo, *The Ordnance Department: On Beachhead and Battlefield*, United States Army in World War II. The Technical Services (Washington, D.C.: Center of Military History, 1968; reprint, 1991), 331-32.

this method proved cumbersome. After several weeks, General Gerow decided that a small team of experts from the assigned staff section would produce a draft report, upon which interested staff sections could comment so that their expertise refined the final product. Other than the staffing of draft products, coordination within the staff was thereafter largely through informal contact rather than routine meetings.<sup>46</sup>

Thus, General Holly had to find an expert to lead the mechanized cavalry study. Within the armored section, he had no one with mechanized cavalry expertise—all of his officers had served in armored divisions, separate tank battalions, or tank destroyer units.<sup>47</sup> After surveying former cavalry group commanders still in Europe, General Holly selected Col. William S. Biddle to be the principal author of the mechanized cavalry study. Biddle had commanded a cavalry group in combat for more than ten months, and “had the most combat experience of all the group commanders.”<sup>48</sup> Biddle had been commissioned in the cavalry upon graduation from West Point in 1923. Throughout the interwar period, he held a wide variety of posts in horse cavalry units and competed in the Pentathlon at the 1928 Olympic Games. He also had significant experience serving senior commanders on high-level staffs. He had served as aide to Maj. Gen. Frank R. McCoy in several diplomatic delegations and was General Eisenhower’s liaison officer to the Center Task Force during Operation TORCH. Biddle had assumed command of the

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<sup>46</sup> Some staff sections also proposed additional subjects for the president's approval. In the end, the General Board studied 131 different subjects related to the conduct of operations in Europe. The armored section reports covered the following subjects: armored divisions (Study #48), mechanized cavalry units (#49), separate tank battalions (#50), the armored group (#51), tank destroyers (#52), tank gunnery (#53), and armored special equipment (#54). General Board, Index to Reports of the General Board (by Number, Section, and Subject), 2. Biddle, "The General Board - European Theater," 3-5.

<sup>47</sup> The members of the armored section were listed in the six reports completed by the section. See also Biddle, "The General Board - European Theater," 7.

<sup>48</sup> William S. Biddle, Letter to Maj. Gen. Frank A. Keating, 1 October 1945, File Correspondence, Sep 1945 - Jan 1946, Box Papers, Apr 1945 - Jan 1946. William S. Biddle Papers, MHI, 1.

113th Mechanized Cavalry Regiment on 8 March 1943, reorganized the regiment as a group in early 1944, and led the group in combat from its first engagement in July 1944 in Normandy—recounted earlier—until the end of the war in May 1945. In June, Biddle relinquished command and took a brigadier general's position as deputy commanding general of the 102nd Infantry Division. Toward the end of September, he received orders detailing him to the General Board for ninety days.<sup>49</sup>

General Holly briefed him on his mission on 1 October. According to the directive for the mechanized cavalry study, Biddle was to prepare a report with recommendations “on the tactical employment, technique, organization, and equipment of Mechanized Cavalry units.”<sup>50</sup> Holly made it clear to him that the object of the General Board “was to draw lessons from the campaigns which would serve as a constructive guide for the future.” Therefore, each report had to be based upon facts rather than anecdote and opinion. “Facts were first to be determined; and upon the basis of these facts, conclusions were to be drawn and recommendations made.”<sup>51</sup> This scholarly approach explains why the staff procedures of the General Board included guidance for using one of three different methods of citation.<sup>52</sup>

Biddle decided to divide the conduct of the study in two major parts, one that compared doctrine and training to the way senior commanders employed mechanized

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<sup>49</sup> George W. Cullum, *Biographical Register of the Officers and Graduates of the U. S. Military Academy at West Point, New York, since Its Establishment in 1802, Supplement 1920-1930*, ed. William H. Donaldson, vol. 7 (Chicago: R. R. Donnelly and Sons, 1930), 1724. Cullum, *Register of Graduates, Vol. 8*, 530. Cullum, *Register of Graduates, Vol. 9*, 401-402.

<sup>50</sup> United States Forces General Board, European Theater, Directive, Committee Number 17; Subject: Tactics, Employment, Technique, Organization and Equipment of Mechanized Cavalry Units, 18 August 1945, File 320.2/6, Box 3, Entry 41982, RG 338, NA.

<sup>51</sup> Biddle, “The General Board - European Theater,” 3.

<sup>52</sup> The board secretariat approved the use of footnotes, a reference list, or appendices. *Ibid.*, 5-6.

cavalry units in combat, and the other that examined organization, armament, and equipment. Biddle intended to assemble a team of field grade officers and assign members to work on these two broad areas—a sensible division of labor given their individual complexity. Establishing an objective basis for the evaluation of mechanized cavalry doctrine and employment would require a thorough survey of combat after action reports. On the other hand, questions of organization and equipment were naturally complicated in a heterogeneous organization as large as a cavalry group. The first two chapters in the final report maintained the same topical approach. The first chapter addressed tactical doctrine and mechanized cavalry's future role, and the second chapter addressed organization and equipment. A third chapter summarized the study's major conclusions and recommendations. In the report, Biddle decided to include supplemental material in appendices, rather than using footnotes or a reference list. Appendices made the report thicker, but he wanted to give readers who did not have access to the original documents the evidence upon which the judgments and recommendations in the report were based.<sup>53</sup>

Biddle's interest in establishing a solid basis for the study's conclusions was based in part on General Gerow's conviction that the mechanized cavalry study was one of "the two most controversial subjects in the entire range of subjects studied by the General Board."<sup>54</sup> Before assuming command of Fifteenth Army in January 1945, Gerow had commanded V Corps from its landing on Omaha Beach until the end of the Ardennes Campaign. He knew that corps commanders in the European Theater had employed their

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<sup>53</sup> General Board, Directive, Committee Number 17; Subject: Tactics, Employment, Technique, Organization and Equipment of Mechanized Cavalry Units, 1. Biddle, "The General Board - European Theater," 5-6.

<sup>54</sup> Biddle, "The General Board - European Theater," 8.

cavalry groups to perform a wide range of missions that were profitable though inconsistent with doctrine and training. Many senior officers were familiar with this discrepancy and the ensuing organizational and armament shortfalls. Several General Board studies examined the tactical employment, equipment, and organization of specific types of units, but the mechanized cavalry study was the only one that included the word “technique” in its mission and title. This showed that officers serving at the highest levels in the European Theater knew that the reconnaissance technique specified in Training Circular 107 was flawed.<sup>55</sup>

However, despite the interest in a rigorous, thorough, and objective study, and Eisenhower’s intent to engage the most experienced and most progressive officers, it was difficult for Colonel Biddle to get qualified field grade officers assigned to the General Board. The basic problem was that too much time had elapsed between the end of the war and the organization of the General Board. The massive demobilization of personnel and units, especially after V-J Day, drove the deadline for the board’s work. On 8 October, Gen. George S. Patton, Jr., assumed command of Fifteenth Army and became the president of the General Board. Shortly after he arrived, he set the 1 January 1946 as the deadline for each report, “owing to the rapid reduction of personnel due to the redeployment and owing to the fact that the majority of people with adequate information are in America.”<sup>56</sup> At the end of the war on 8 May 1945, the strength of ETOUSA had been 3,077,000. Throughout the summer, several hundred thousand soldiers were shipped back to the States each month as ETOUSA reversed the flow of men and equipment. At

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<sup>55</sup> General Board, Directive, Committee Number 17; Subject: Tactics, Employment, Technique, Organization and Equipment of Mechanized Cavalry Units, 1.

<sup>56</sup> Martin Blumenson, *The Patton Papers*, 2 vols. (Boston: Houghton Mifflin, 1972), 2:804. Biddle, “The General Board - European Theater,” 6.

first, the flow consisted of high point soldiers returning for discharge and those with low scores who were redeploying to the Pacific Theater for the invasion of Japan. However, after the destruction of Hiroshima and Nagasaki, the flow became a torrent; USFET shipped roughly 400,000 soldiers back each month so that by 31 December 1945, the theater strength had fallen to 614,000.<sup>57</sup>

Biddle was attempting to build a team just as the flow of experienced personnel back to the States hit its peak. As he started work, all seven of the National Guard mechanized cavalry groups were heading home to demobilize. Fortunately, six of the seven Regular Army mechanized cavalry groups remained in Germany throughout 1945, but many of the officers who had served in these units during the war had taken new assignments. Some remained in Germany, but their commanders were unwilling to release key leaders—even for a short period of temporary duty—during a period of massive personnel turmoil with its associated morale, discipline, and operational problems. Consequently, Biddle was not able to find any qualified majors. He did obtain assistance from three lieutenant colonels, all former squadron commanders, but either the schedule of their arrival or the duration of their service was inadequate. The first, Lt. Col. Samuel McC. Goodwin, an excellent writer, reported the second week of October but could only work for ten days before departing to begin an Army-funded graduate program at Columbia University. USFET promised to send Lt. Col. George C. Benjamin and Lt. Col. Harry W. Candler, but their arrival was repeatedly delayed and by late October, Biddle still did not know when they would arrive. Benjamin arrived in mid-November and worked for a month, but Biddle soon discovered that he was not an

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<sup>57</sup> Earl Frederick Ziemke, *The U.S. Army in the Occupation of Germany, 1944-1946*, Army Historical Series (Washington: Center of Military History, 1975), 328-29, 334-35.

effective writer and directed him to work on the statistical tables that appeared in the appendices of the study instead. Candler did not arrive until early December, but stayed until mid-January as the clean-up man. He produced narratives and maps describing historical examples of mechanized cavalry operations, which appeared in an appendix of the final report. Candler also helped Biddle assemble, edit, and reproduce the final report. The only subordinate who worked with Biddle throughout the study was Lt. Donald C. Burdon, a platoon leader in the 6th Cavalry Group. He arrived with Goodwin and served as Biddle's administrative assistant until a few days after Christmas.<sup>58</sup>

Fortunately, shortly after assuming command of Fifteenth Army, General Patton provided the co-author of the mechanized cavalry study. Patton soon learned of the trouble Biddle was having getting experienced officers. As a former cavalryman, he already had an interest in mechanized cavalry, which was evident in a letter he wrote to Assistant Secretary of War John J. McCloy in September: "I do hope you will do something to see that the Cavalry Arm, mechanized of course, is retained, because there is no question of doubt that the élan and audacity requisite for successful war is largely nurtured in the ranks of the Cavalry."<sup>59</sup> Working through his former staff at Third Army, Patton arranged for the assignment of Colonel Charles H. "Hank" Reed from the 2nd Mechanized Cavalry Group. Reed had graduated from West Point the year before Biddle, and had served throughout the twenties and thirties in the cavalry. His first assignment to

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<sup>58</sup> Shelby L. Stanton, *Order of Battle, U.S. Army, World War II* (Novato, California: Presidio, 1984), 308-310. Biddle, "The General Board - European Theater," 8-9, 19. John A. Jr. Smith, Memorandum For: Chief of Staff, the General Board, 29 October 1945, File Correspondence, Sep 1945 - Jan 1946, Box Papers, Apr 1945 - Jan 1946. William S. Biddle Papers, MHI. William S. Biddle, Letter to Lt. Col. Samuel McC. Goodwin, 2 January 1946, File Correspondence, Sep 1945 - Jan 1946, Box Papers, Apr 1945 - Jan 1946. William S. Biddle Papers, MHI.

<sup>59</sup> George S. Patton, Letter to Assistant Secretary of War, John J. McCloy, 1945, File 26, Box WD 1, John J. McCloy Papers, Amherst College Library.

a mechanized unit was as the commander of the 2nd Mechanized Cavalry Regiment when it activated in January 1943. He led the 2nd Mechanized Cavalry Group throughout the fighting in Europe except for eight weeks after being wounded at Lunèville in September 1944. Like Biddle, Reed was an expert cavalry officer and an experienced mechanized cavalry group commander. Reed developed the organization proposed in the final report. Unfortunately, Third Army could not release Reed until 1 November so Biddle worked alone for most of October.<sup>60</sup>

Aside from building a team to conduct the study, Biddle's most pressing task in early October was to request opinions from experienced large unit and mechanized cavalry commanders so that he would receive their responses with enough time to use them. The delay in organizing the General Board worked against him in this effort. It was difficult to find the names of former commanders, their current addresses, and unit of assignment. It was particularly difficult simply to find the names of the captains who had commanded the reconnaissance troops in the forty-two infantry divisions. Working more hastily than he would have liked, he created questionnaires for both groups. The ones to former group, squadron, and troop commanders, Biddle sent under his own cover letter; General Holly signed those addressed to former corps and field army commanders. Holly had already requested the opinions of armored division commanders and their cavalry squadron commanders, although not as comprehensively as Biddle's questionnaire.<sup>61</sup>

Lieutenant Burdon created several charts on which he plotted the responses to the

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<sup>60</sup> Cullum, *Register of Graduates*, Vol. 7. Cullum, *Register of Graduates*, Vol. 8. Cullum, *Register of Graduates*, Vol. 9, 382. 2Lt Charles K. Howard, Interview, 2nd Cavalry Group CO and S3, 19 June 1945, File 2nd Cavalry Group, Lorraine, 1 Sept - 22 Dec 1944, Box 24105, Entry 427, RG 407, NA, 8. Alexander C. Fraser, Jr., Memorandum to Theater Historian, USFET (Rear), Subject: Historical Information, 17 September 1945, File CAVG-2-0.1, Box 17942, Entry 427, RG 407, NA, incl. List of Commanders.

<sup>61</sup> Biddle, "The General Board - European Theater," 10.



questionnaires. The charts proved invaluable to Biddle for tracking opinion on the key issues, and simplified versions of these charts appeared as appendices in the back of the final report.<sup>62</sup>

Given the massive movement of units and people in the fall of 1945 and the limited time available for the study, the number of responses was generally good, particularly among those with experience relevant to the mechanized cavalry groups. Half of the field army and corps commanders responded, although among the corps commanders who did not respond were some of the best, including Manton S. Eddy, J. Lawton Collins, and Troy H. Middleton. Almost all former cavalry group commanders and half of their subordinate reconnaissance squadron commanders responded. However, the response rate among division commanders and division cavalry leaders was exceptionally lean: only five former division cavalry squadron commanders out of fifteen and five division cavalry troop commanders out of forty-two responded. Among the fifty-seven infantry and armored divisions in the European Theater, Biddle received input from just four armored division commanders. Division units and commanders were underrepresented throughout the report.<sup>63</sup>

While he waited for the questionnaires to be returned, Biddle read the background material available in Bad Nauheim, which included field manuals; training circulars; tables of organization and equipment; some of the cavalry group monthly after action reports; and War Department observers board reports. Biddle was already familiar with

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<sup>62</sup> Ibid., 11-12. General Board, Mechanized Cavalry Units, appxs. 9, 18, 21.

<sup>63</sup> General Board, Mechanized Cavalry Units, appx. 1. General Board, Mechanized Cavalry (Draft), appxs. 8-9. Robert H. Berlin, *U.S. Army World War II Corps Commanders: A Composite Biography* (Fort Leavenworth, Kansas: Combat Studies Institute, U.S. Army Command and General Staff College, 1989), 11-12.

the issues raised in the observers board reports, most of which addressed the tactical performance of a particular piece of equipment, but he found a report of First Army's operations from 1 August 1944 to 22 February 1945 very useful since it provided a detailed discussion of mechanized cavalry's role and performance from the perspective of a field army. Third Army and Seventh Army had held conferences on mechanized cavalry units in June and August 1945, respectively, and submitted conference reports that proposed changes to the mechanized cavalry tables of organization and equipment. A few cavalry groups had proposed their own changes, but the army reports reflected the views of a wider number of experienced officers and units, which made them more useful.<sup>64</sup>

### **Mission, Doctrine & Future Role**

Having reviewed this material, Biddle had decided on the basic organization of the study by the time Lieutenant Colonel Goodwin and Lieutenant Burdon arrived on 10 October. During his ten days in Bad Nauheim, Goodwin created an outline of the report and wrote the initial draft of the first chapter. It began by describing mechanized cavalry doctrine and training before OVERLORD and compared this to the way higher commanders actually employed mechanized cavalry units in combat. Passages from Training Circular 107 and the June 1944 edition of FM 100-5 summarized the official role and mission of mechanized cavalry and the stealthy reconnaissance technique that units had been trained to exploit.

In order to describe how mechanized cavalry groups had actually been employed

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<sup>64</sup> Biddle, "The General Board - European Theater," 12.

and fought, Biddle analyzed their monthly after action reports.<sup>65</sup> Some of these reports were available in Bad Nauheim, but when Biddle requested the remainder, the USFET Historical Section outside Paris refused to send them. In order to complete the survey, Biddle had to travel nearly four hundred miles to USFET Rear Headquarters in St. Germain in mid-November. He classified the activities of the twelve mechanized cavalry groups for which there were records available on every day they were in combat according to six variables: the group's assigned mission, whether its mode of fighting was primarily mounted or dismounted, organic units detached from the group, the type and strength of units attached and in direct support, the group's organization for combat, and the higher headquarters to which they were attached. Four of these variables—mission, mode of fighting, detachments, and higher headquarters—Biddle recorded statistically. The other two—reinforcements and organization for combat—he examined for common trends and patterns.<sup>66</sup>

Biddle grouped the missions assigned to cavalry groups in five broad categories. He based these on the five traditional missions of cavalry listed in Field Manual 2-15, *Employment of Cavalry*, which had been published in April 1941 when most cavalry regiments were still horse mounted:

- *Offensive combat*, including attack as well as pursuit and exploitation.
- *Defensive combat*, including defense, delaying action and holding of key

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<sup>65</sup> For unknown reasons, none of the after action reports of the 106th Mechanized Cavalry Group were available in Bad Nauheim or St. Germain in November 1945. However, they do exist in the National Archives today. William S. Biddle, Letter to Col. Vennard Wilson, 21 February 1946, Box 1946-1947 - 11th Constabulary Regiment, William S. Biddle Papers, MHI. General Board, Mechanized Cavalry Units, bibliography, p. 1; appx. 3, p. 1. Not every cavalry group's reports covered a single month. The 2nd Cavalry Group's reports, for example, covered the following periods: 1 August - 5 November 1944, 6 November - 23 December 1944, 24 December 1944 - 28 February 1945, and 1 March - 8 May 1945. File CAVG-2-0.3, Boxes 17942-17947, Entry 427, RG 407, NA.

<sup>66</sup> Biddle, "The General Board - European Theater," 15-16. General Board, Mechanized Cavalry Units, appx. 3, pp. 1-2.

terrain until the arrival of main forces.

- *Reconnaissance*.
- *Security* (for other arms), including blocking, moving, and stationary screening, protecting flanks, maintaining contact between larger units and filling gaps.
- *Special operations*, including acting as mobile reserve, providing for security and control of rear areas, and operating an army information service.<sup>67</sup>

However, he made a few modifications. Mobile reserve, rear area security, and an army information service were not missions specifically mentioned in FM 2-15, but they logically fit within the special operations category. Filling a gap between two divisions, which FM 2-15 had listed under special operations, Biddle categorized as a security mission. He carefully analyzed each group's mission for the 2,837 days of combat for which he had records. A chart in an appendix displayed each of the cavalry groups, the number of days they had been in combat, and the number of days spent performing a mission in each of the five categories. Five subsequent charts displayed the same information broken down by each campaign—Normandy, Northern France, Rhineland, Ardennes, and Central Europe.<sup>68</sup>

Although not evident from the names of the categories, Biddle was more restrictive about what constituted reconnaissance than the authors of FM 2-15 would have been in 1941. American cavalry doctrine from the 1890s until 1942 had always described reconnaissance as a dynamic combination of dispersion and concentration; gathering information and providing security; stealth and combat.<sup>69</sup> Although contrary to the

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<sup>67</sup> General Board, Mechanized Cavalry Units, 6-7 (emphasis mine).

<sup>68</sup> FM 2-15 (1941), 5. General Board, Mechanized Cavalry Units, appx. 3, pp. 2-7.

<sup>69</sup> For example, see Arthur L. Wagner, *The Service of Security and Information*, 14th ed. (Kansas City, Missouri: Hudson Kimberly Publishing Co., 1903), 15-16, 137-38. Cavalry Board, "The Employment of Cavalry (TR 425-105)," 1922, U.S. Cavalry Museum Library, Fort Riley, Kansas, 11-17. *Field Service Regulations* (1923), 32-34. FM 2-15 (1941), 96-98. FM 100-5, *Field Service Regulations, Operations*

technique describe in Training Circular 107, reconnaissance in the Europe Theater of Operations had normally required fighting for information. However, for the purposes of the General Board report, Biddle followed the training circular's restrictive definition of reconnaissance. Biddle classified a unit's mission as reconnaissance if it had intended to exploit stealth, infiltration, and gaps—what the report occasionally referred to as *pure* reconnaissance. However, he noted in the report that “the accomplishment of both reconnaissance and security missions normally involved offensive combat.”<sup>70</sup> Although small patrols could employ stealth in fluid situations, which facilitated the effective employment of the prescribed reconnaissance technique, an entire squadron usually had to fight for information after it encountered a strong enemy security screen. However, the battlefield was rarely fluid: “The situation where reconnaissance elements, operating in the prescribed manner, could precede combat elements by an effective distance, seldom presented itself, and more often it was only by fighting that any type of unit could advance.”<sup>71</sup> Similarly, in order to secure other arms, cavalry squadrons had to counterattack enemy attempts to penetrate their guard.

Biddle's analysis of the combat record revealed that corps commanders had rarely employed mechanized groups in reconnaissance (see table 1). According to doctrine, the mission of mechanized cavalry units was strictly reconnaissance, but the corps cavalry groups had performed pure reconnaissance only three percent of the time. However, this statistic was somewhat misleading. Combat records revealed that “reconnaissance was frequently performed by mechanized cavalry units but *usually in conjunction with the*

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(Washington, D.C., 22 May 1941), 44-45. TC 42, *Employment of Cavalry Mechanized Reconnaissance Elements* (Washington, D.C., 18 July 1942), 2-5.

<sup>70</sup> General Board, Mechanized Cavalry Units, 7.

<sup>71</sup> *Ibid.*, 9.

*execution of other missions* rather than as a mission of its own.”<sup>72</sup> Therefore, the study concluded, “The mission which was assigned to mechanized cavalry—reconnaissance with a minimum of fighting—was unsound.”<sup>73</sup> Additionally, Biddle’s own experience, his analysis of the combat records, and the responses from former corps and army commanders showed “that mechanized cavalry units executed, generally with creditable successes, most of the traditional combat missions of the cavalry.”<sup>74</sup> The questionnaires revealed widespread consensus among army, corps, division, group, and squadron commanders about cavalry’s future employment. When asked if the mission of mechanized cavalry should be combat rather than primarily reconnaissance, sixty-two of sixty-seven respondents said yes. Similarly, fifty-six of sixty respondents believed that commanders should employ mechanized cavalry in the same missions described in FM 2-15.<sup>75</sup>

**Table 1. Missions of Mechanized Cavalry Groups during the European Campaign<sup>76</sup>**

Mission Type	Frequency of Occurrence
Offensive Combat	10%
Defensive Combat	33%
Reconnaissance	3%
Security	25%
Special Operations	29%

If combat was to become the role of future mechanized cavalry units, Biddle’s

<sup>72</sup> Ibid., 9, emphasis mine.

<sup>73</sup> Ibid., 13.

<sup>74</sup> Ibid., 9. See also appx. 6, pp. 3-11; appx. 19, pp. 1-2.

<sup>75</sup> It is likely that the five officers who thought that reconnaissance should be the primary mission of cavalry assumed that reconnaissance would naturally involve combat. In other words, they were not necessarily voting to retain the doctrine expressed in Training Circular 107. Ibid., appx. 9, p. 1. FM 2-15 (1941), 5.

<sup>76</sup> General Board, Mechanized Cavalry Units, 7; appx. 3, p. 2.

second variable—the relative proportion of mounted and dismounted fighting—would be significant. Just as stealthy reconnaissance and fighting for information were dynamically interrelated in the operations of a cavalry troop or squadron, “mounted and dismounted phases of combat were necessarily closely interrelated.” Like the 113th Cavalry’s attacks on Goucherie and la Caplainerie in July 1944, “dismounted combat had mounted support; and mounted action was assisted by dismounted action when resistance or other factors required.”<sup>77</sup> Biddle’s statistical analysis found that the number of days spent fighting primarily dismounted outnumbered mounted service by nearly two to one. Although the frequency of offensive, defensive, and security missions contributed to this ratio, reconnaissance operations also required a significant amount of dismounted patrolling, especially during the Rhineland Campaign. Mechanized cavalymen developed significant skill in dismounted patrolling, but their “ability to do this work was greatly handicapped by the inadequate number of men in the cavalry reconnaissance squadron and troop available for dismounted employment.”<sup>78</sup> The shortage of manpower also reduced their capacity “for dismounted maneuver and close protection of combat vehicles.” When coupled to the shortage of rifles in each squadron, these weaknesses “seriously reduced the ability of mechanized cavalry to engage in dismounted combat.”<sup>79</sup>

The legacy of horse cavalry tactics taught at the professional schools during the interwar period helped Biddle frame these conclusions. American horse cavalry tactics favored a combination of dismounted firepower and mounted maneuver. In the twenties and thirties, the officers who commanded cavalry groups in the European Theater of

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<sup>77</sup> Ibid., appx. 3, p. 8.

<sup>78</sup> Ibid., 9.

<sup>79</sup> Ibid., 10.

Operations attended the Cavalry School at Fort Riley, where they practiced employing cavalry “rifle troops” using these tactics. Students at the Command and General Staff School at Fort Leavenworth also studied these tactics, regardless of their branch. Almost all of the corps commanders and several of the cavalry group commanders attended this school. Shaped by their education in professional schools and experience in combat, these officers universally advocated increasing the rifle strength of future cavalry units.<sup>80</sup>

Biddle’s analysis of the units detached from cavalry groups also had implications for future organization. When the War Department organized cavalry groups, planners in Army Ground Forces assumed that the squadrons would not remain with the group headquarters for very long. The battalions of other supporting arms at echelons above division, such as tank destroyers, engineers, and field artillery, worked for a variety of other headquarters and often did not return to the control of their original group headquarters. Cavalry squadrons, on the other hand, remained with their associated group throughout the campaign. During each campaign, corps commanders handled their cavalry group as though it were still a regiment. On average, most groups had a squadron detached for about twenty to thirty days over the course of the fighting in Europe. In some special cases, the duration of detachment was longer, but in every case, the squadrons returned to their parent group. Based upon their combat experience, all of those who responded to Biddle’s questionnaire supported restoring the regiments.<sup>81</sup>

The cavalry groups, themselves, primarily worked for a corps. A surprising

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<sup>80</sup> U.S. Army General Service Schools, *Tactics and Technique of Cavalry* (Fort Leavenworth, Kansas: The General Service Schools Press, 1925), 2. Cavalry Board, The Employment of Cavalry (TR 425-105), 24 April 1929, File 300.7 - Training Regulations, Box 1, Entry 39, RG 177, NA, 2-3. Cavalry Field Manual, Volume III, *Employment of Cavalry* (Washington, D.C., 3 January 1938), 3. Berlin, *U.S. Army World War II Corps Commanders: A Composite Biography*, 11-12.

<sup>81</sup> Circular 256 (1943), 1, 3. General Board, Mechanized Cavalry Units, appx. 3, p. 15; appx. 18, p. 1.



amount of their time in combat was spent attached to an infantry division, though the statistics were skewed in this respect by two groups that had spent several months attached to an infantry division on the defensive—one of them part of the force besieging St. Nazaire. Surprisingly, although almost every group had spent some time attached to an infantry division, Biddle never sent questionnaires to infantry division commanders to ask about their experience. The 6th Cavalry, which had functioned as Third Army’s “Army Information Service” during the breakout from Normandy, was the only cavalry group that worked directly for a field army. Several groups worked for short periods for armored divisions, but this was rare. From these statistics, it could be assumed that a future mechanized cavalry regiment would primarily serve under corps control.<sup>82</sup>

Biddle recorded the last two variables—attached and supporting units, and organization for combat—in terms of common trends and patterns. For example, combat records showed that corps reinforced cavalry groups with at least one tank destroyer battalion, an engineer company, and a field artillery battalion during most combat operations. Because mechanized cavalry units required mobility above almost any other capability, tank destroyer and artillery attachments were normally self-propelled and armored, respectively. The attachment of tank destroyers made up for the lack of a sufficiently lethal cannon on either the light tank or armored car. Attached combat engineers performed two roles: pioneer and demolition functions or their secondary role as infantry. Since infantry units existed only within the divisions, combat engineers were the only supporting arm directly controlled by the corps that could remedy the lack of

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<sup>82</sup> General Board, Mechanized Cavalry Units, appx. 3, p. 16.

riflemen within mechanized cavalry groups.<sup>83</sup> Mechanized cavalry groups often required a field artillery battalion or two in direct support because they were often outside the supporting range of the corps artillery. During fluid offensive operations, cavalry groups frequently operated at a significant distance to the front or the flank of their corps, as illustrated by the 113th Cavalry Group's rapid pursuit of withdrawing German forces more than a hundred miles in front of XIX Corps in early September 1944. During defensive operations, cavalry groups used their mobility to hold wide sectors—sometimes extremely wide as illustrated by the relief of the 4th Cavalry Group in the Hürtgen Forest by an entire corps. Another reason cavalry groups required field artillery support was because the bursting radius of a 105mm shell was more lethal and effective than a 75mm shell fired by the assault guns in the reconnaissance squadrons.<sup>84</sup>

Diagrams in the mechanized cavalry study displayed how mechanized cavalry groups typically organized their organic, attached, and supporting elements for combat. Group commanders usually kept field artillery battalions centrally located in direct support of the entire group. In addition, group commanders often used a platoon of combat engineers to secure the group headquarters. The dispersal of mechanized cavalry units across wide zones or sectors often resulted in the intermixing of enemy and friendly units, which left the group headquarters vulnerable to enemy contact.<sup>85</sup>

Since a cavalry group only had two squadrons, it was difficult to create a group

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<sup>83</sup> Ibid., appx. 3, p. 9. Divisions could reinforce their mechanized cavalry units with infantry from within the division.

<sup>84</sup> V Corps relieved the 4th Cavalry. George F. Hofmann, *Through Mobility We Conquer: The Mechanization of U.S. Cavalry* (Lexington, Kentucky: The University Press of Kentucky, 2006), 356. Ben L. Rose, ed. *The Saga of the Red Horse: A Short Account of the Combat Operations in Europe During 1944-45, of the 113th Cavalry Group Mechanized* (Nijmegen, Holland: N.V. Drukkerij G. J. Thieme, 1945), 15-16. General Board, *Mechanized Cavalry Units*, 11.

<sup>85</sup> General Board, *Mechanized Cavalry Units*, 12, 15; appx. 3, pp. 10-15.

reserve, and group commanders used attached units for this purpose. The difficulty in forming a strong reserve led Biddle and Reed to conclude that future cavalry regiment should be triangular so that the third squadron could function as the reserve. During the Second World War, the U.S. Army used a triangular pattern to design most combat units. Thus, infantry battalions had three companies, infantry regiments had three battalions, and infantry divisions had three regiments. However, mechanized cavalry had followed the interwar pattern of giving a cavalry regiment only two squadrons, but this was a historical anomaly caused by the austere fiscal conditions following the First World War. Earlier, between 1860 and 1921, cavalry regiments had three squadrons. Unfortunately, when other units were being expanded back to their normal war strength and structure in 1940-1942, mechanized cavalry regiments remained fixed at two squadrons. Based upon their combat experience, most of the commanders who responded to Biddle's questionnaire supported expanding the corps cavalry to a regiment of three squadrons.<sup>86</sup>

Squadron commanders often used one of their three reconnaissance troops as the core of their reserve to which they added tank destroyers and combat engineers, if available. A common pattern was to attach a tank destroyer platoon to the three reconnaissance troops, giving them the ability to kill enemy heavy tanks. Squadron commanders often employed their light tank and assault gun platoons the same way. On the offensive, squadron commanders normally retained attached combat engineers in the squadron reserve and committed them only when there was requirement for dismounted combat. They only attached combat engineers to the lead reconnaissance troops when

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<sup>86</sup> Shelby L. Stanton, *World War II Order of Battle* (New York: Galahad Books, 1991), 8-10. *Military Establishment Increase Act*, chap. 24, (29 July 1861), *Statutes at Large* 12 (1861). T/O 504, Series E, *Cavalry Regiment* (26 September 1918). T/O 423W, *Cavalry Regiment* (3 April 1921). T/O 2-51, *Cavalry Regiment, Horse and Mechanized* (Washington, D.C., 1 May 1940). General Board, *Mechanized Cavalry Units*, appx. 18, p. 1.

there were enough combat engineers to both reinforce the front line units and retain riflemen in reserve.<sup>87</sup>

From Biddle's detailed analysis of the six variables from the combat records, he was able to draw several conclusions that influenced the design of the organization recommended by the General Board. It should be a regiment with organic squadrons and perform traditional cavalry combat missions for a corps. It should possess enough riflemen to conduct dismounted maneuver, organic self-propelled field artillery to support operations across a wide front or at a significant distance from other corps elements, sufficient firepower to kill enemy tanks, and a security detachment to protect the regimental headquarters in fluid situations. The organization proposed by the General Board reflected these lessons drawn from combat experience.

### **Organization & Equipment**

In early November, as Biddle conducted the study of the combat records in Bad Nauheim and St. Germain, Colonel Reed arrived and began work on organization and equipment. Reed's job included making detailed organizational charts of each proposed unit. The final report included two appendices with twelve pages of organization charts and thirteen supporting tables that summarized the personnel, vehicles, and crew served weapons in each unit. Biddle found that Reed had a talent for this type of detailed work.<sup>88</sup>

The respondents to Biddle's questionnaire unanimously favored replacing the group with a regiment. Based on their combat experience, Army officers had confidence

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<sup>87</sup> Biddle, "The General Board - European Theater," 13. General Board, Mechanized Cavalry Units, appx. 3, pp. 10-15.

<sup>88</sup> Biddle, Letter to Lt. Col. Samuel McC. Goodwin, 1. General Board, Mechanized Cavalry Units, appx. 9, p. 1; appx. 13, pp. 1-13; appx. 14, pp. 1-14. Biddle, "The General Board - European Theater," 12-13.

in the triangular pattern of organization, which allowed two subordinate elements to fight while one remained in reserve. With only two reconnaissance squadrons attached to a cavalry group, commanders had struggled to assemble a reserve. Squadron commanders had faced the same problem when one of their three cavalry troops was detached for an extended period, which was a common experience. Therefore, a majority of respondents favored a regiment with three squadrons and a squadron of three cavalry troops.<sup>89</sup>

Based on their experience in both horse and mechanized cavalry units, Biddle and Reed agreed on a fundamental principle that influenced the study's conclusions and recommendations regarding organization and equipment. They believed "that the future role of mechanized cavalry should be the traditional cavalry role of a highly mobile, heavily armed and lightly equipped combat force."<sup>90</sup> This statement was as much a link to the past as it was a principle to guide future doctrine, training, organization, and equipment. Since the American Civil War, the U.S. cavalry had aggressively sought to increase its firepower in order to perform the missions outlined in FM 2-15, but it valued mobility above all other considerations. Thus, the 1923 *Field Service Regulations* had identified mobility and firepower as the principle characteristics of cavalry, and the textbook used at the Command and General Staff School, *Tactics and Techniques of Cavalry*, identified mobility as cavalry's "most important characteristic."<sup>91</sup>

In order to be "highly mobile," the future regiment had to be "lightly equipped" and could not have extra personnel or heavy equipment. Therefore, Biddle and Reed

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<sup>89</sup> General Board, Mechanized Cavalry Units, appx. 3, p. 15; appx. 18, p. 1.

<sup>90</sup> Ibid., 13.

<sup>91</sup> In addition, the motto of the Cavalry School was *Mobilitate Vigemus*: "through mobility we flourish." *Field Service Regulations* (1923), 17. U.S. Army General Service Schools, *Tactics and Technique of Cavalry*, 1.

eschewed placing special purpose units in the regiment that would make it larger and unwieldy. Their goal was a regiment of no more than 3,000 men. Thus, they decided that it would be better to train cavalrymen to perform basic pioneer and demolition tasks than to add a combat engineer company to the regiment. In their view, a cavalryman had to be “a multipurpose and multi-weapon soldier.”<sup>92</sup> They only included in the regiment units that were always essential to its role and missions.

In order to perform “the traditional role of cavalry,” the future regiment needed to combine mobility and firepower as American horse cavalry had done in the past. This demanded a vehicle fleet with certain characteristics. They would have to combine speed, range, reliability, and ease of maintenance. Fighting vehicles also required heavy armament and quiet operation. Given the technology in the late forties, Biddle and Reed assumed that this meant that a large proportion of the vehicles would have to be wheeled. Tracked vehicles generally moved slower, had a shorter range, and their fuel and maintenance requirements imposed a much heavier logistical burden. They were also much louder than the jeep and M8 Greyhound armored car, both of which were exceptionally quiet.

The mechanized cavalry study recommended the development of an improved armored car because the M8 was not a satisfactory vehicle. Its 37mm main gun was too light and its truck type suspension seriously limited its cross-country mobility. When the Armored Force Board requested a wheeled, turreted, reconnaissance vehicle in the spring of 1941, the Ordnance Department had not had an active armored car program for four years. The development of the M8 was rushed, and it was put in production in February

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<sup>92</sup> General Board, Mechanized Cavalry Units, 14. Biddle, "The General Board - European Theater," 13.

1943 in order to get a vehicle that was good enough into the hands of units that were already facing the Germans in North Africa. After the M8 went into production, Ordnance continued the development of an improved armored car, and in February 1945, it standardized the M38 Wolfhound. The M38 used an independent coil spring suspension system, which gave it excellent cross-country mobility, and Ordnance was running a series of tests to explore arming it with a high velocity 75mm antitank cannon. Biddle and Reed wanted a vehicle like this for the cavalry.<sup>93</sup>

A recent Combat Studies Institute monograph claims that the U.S. Army's "analysis of wartime experience postulated the creation of even heavier reconnaissance units in the postwar period."<sup>94</sup> With respect to the General Board study, this is not true. Instead, because Biddle and Reed appreciated the value of a "highly mobile, heavily armed and lightly equipped combat force," they sought to keep the weight and logistical requirements of the vehicles in the future cavalry regiment as light as possible. Generally, officers who had served in corps cavalry units favored this approach. On the other hand, those who served in armored divisions sought to replace the armored car in the cavalry platoon with the light tank. Some cavalry groups had chosen to do this in early 1945. When the M5 light tanks in the light tank troop were replaced by the M21, some cavalry groups used the spare M5 tanks in lieu of the M8 armored car within the reconnaissance platoon. However, this was a combat expedient. The solution that corps cavalrymen sought was to develop improved versions of the armored car, light tank, and assault gun, and to ensure that any personnel carrier used to transport riflemen would be light and

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<sup>93</sup> R. P. Hunnicutt, *Armored Car: A History of American Wheeled Combat Vehicles* (Novato, California: Presidio Press, 2002), 32, 76, 108-109, 144-45.

<sup>94</sup> John J. McGrath, *Scouts Out! The Development of Reconnaissance Units in Modern Armies* (Fort Leavenworth, Kansas: Combat Studies Institute, 2008), 114.

mobile.<sup>95</sup>

Finally, in order to be a “heavily armed” combat force, mechanized cavalry units required the ability to maneuver and fight dismounted. In order to remain mobile, the ratio of men to vehicles had to be as high as possible. However, there were several competing ideas for incorporating riflemen into the squadron. The First, Third, and Seventh Army reports on mechanized cavalry units each proposed a different solution to the problem. First Army recommended incorporating a rifle squad in each reconnaissance platoon whereas Seventh Army recommended adding two. Third Army took a different tack and recommended adding to each squadron a rifle troop, which would function the same way that attached combat engineer companies had during the war. Reed chose a compromise that would make the importance of riflemen clear to anyone reading the study; he put a rifle squad in each cavalry platoon and a dragoon troop in each squadron. Riflemen in the cavalry platoons would provide the ability to fight in broken terrain and patrol more extensively. The dragoon troop in the squadrons would give the squadron commander a sizeable reserve for dismounted employment.<sup>96</sup>

However, because of the goal to keep the overall size of the regiment below 3000 men, Biddle and Reed chose to include only two cavalry troops in each squadron. Adding three troops to the regiment would raise the total strength from 3000 to 3500 and the number of vehicles from 700 to 825. Reed was also concerned that seven troops would

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<sup>95</sup> William S. Biddle, Letter to Col. John T. Cole, 26 October 1945, File Correspondence, Sep 1945 - Jan 1946, Box Papers, Apr 1945 - Jan 1946. William S. Biddle Papers, MHI, 1. Headquarters, European Theater of Operations, Immediate Report No. 59, 21 February 1945, Box 6, Entry 41987, RG 338, NA, 2. General Board, Mechanized Cavalry Units, 20-21.

<sup>96</sup> Biddle, "The General Board - European Theater," 13. A nearly equal number of respondents favored adding a rifle troop to the squadron as were in favor of adding a rifle squad to the cavalry platoon. However, this did not necessarily mean that the respondents favored doing both, but perhaps one or the other. General Board, Mechanized Cavalry Units, appx. 18, p. 1.



make command and control of a squadron unwieldy, whereas experience had shown that a commander could control six troops. Therefore, Reed initially proposed that each squadron have two cavalry troops, a dragoon troop, a light tank company, an assault gun troop, and a headquarters troop. Based on their own experience and the review of combat records, Biddle and Reed assumed that a squadron would lead with two cavalry troops and the dragoon troop in reserve. Because of its ability to fight dismounted, Reed thought that the dragoon troop was a better reserve than a third cavalry troop. Some officers wanted a third cavalry troop in order to relieve one of the lead troops, but Reed believed that the regiment could conduct the relief using a fresh troop from the third squadron, which he expected would normally be in the regimental reserve. Patton approved the squadron organization they proposed.<sup>97</sup>

The composition of the cavalry squadron was a topic of discussion at Bad Nauheim in November. Biddle found that officers who had served in armored divisions desired to replace armored cars in cavalry troops with light tanks, whereas those who served in corps cavalry units preferred to develop an improved armored car. At a conference to consider the armored division study held on 7 November, the authors of the study proposed a division cavalry squadron that had four cavalry troops and an assault gun troop, and proposed equipping the cavalry troops with light tanks and jeeps rather than armored cars and jeeps. This substitution allowed them to eliminate the requirement for a light tank troop. However, Biddle objected because the elimination of the armored car would reduce the sustained mobility of the squadron they had proposed. Additionally, he noted that the design failed to improve the squadron's ability to fight dismounted.

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<sup>97</sup> United States Forces General Board, European Theater, Minutes of Conference on Mechanized Cavalry, 27 November 1945, File General Board, Box April 1945-January 1946. William S. Biddle Papers, MHI, 3-4. Biddle, "The General Board - European Theater," 14.

Former commanders at the conference, including Maj. Gen. Robert W. Grow, overruled Biddle, but Patton vetoed the squadron proposed by this conference in favor of Reed's squadron. On 20 November, Biddle presented Reed's squadron at a conference on the infantry division study, and the participants accepted it.<sup>98</sup>

Assisted by Lieutenant Colonel Benjamin and Lieutenant Burdon, Biddle and Reed hosted a mechanized cavalry conference on 27 November in Jeschke's Grand Hotel in Bad Nauheim. The purpose of the conference was for experienced mechanized cavalry commanders to review a draft of the study and comment on its tentative conclusions and recommendations. Unfortunately, by late November, many of the experienced group commanders had already redeployed or changed command, and only five were able to attend, in addition to Biddle and Reed. A few reconnaissance squadron commanders and cavalry group staff officers also attended. Representing the General Board were General Leven C. Allen, Patton's deputy; Maj. Gen. Hobart R. Gay, Patton's chief of Staff; General Holly; and officers from twelve different General Board staff sections. Unfortunately, Patton himself was visiting Sweden and not able to attend.<sup>99</sup>

The conference started at 9 o'clock in the morning and ran all day. After opening remarks by General Holly, the armored section gave the group forty minutes to study the draft study. Biddle then provided a five-minute orientation on the study's findings with respect to the mission, tactical doctrine and technique, and future role of mechanized

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<sup>98</sup> Biddle, "The General Board - European Theater," 14, 19. General Board, The Armored Division, appx. 4, p. 1; appx. 6, p. 1; appx. 7, p. 1.

<sup>99</sup> In addition to Colonels Biddle and Reed, the following cavalry group commanders attended: Brig. Gen. Joseph M. Tully and Col. John C. Macdonald (4th Cavalry), Col. Edward M. Fickett (6th Cavalry), Col. Lawrence G. Smith (14th Cavalry), and Col. Garnett H. Wilson (115th Cavalry). From the staff of the General Board, representatives from the G1, G2, G3, G3 air-ground liaison, G4, artillery, antiaircraft artillery, engineer, signal, ordnance, surgeon, and chaplain sections attended the conference. General Board, Minutes of Conference, 1-2. Blumenson, *The Patton Papers*, 2:811-12.

cavalry units. This was followed by thirty minutes of discussion during which the attendees unanimously approved the main doctrinal conclusions. After a recess, Colonel Reed provided a fifteen-minute orientation on the proposed organization and equipment of mechanized cavalry, which was followed by several hours of discussion that ran through lunch and late into the afternoon. To guide the discussion during the conference, Biddle and Reed provided a list of questions about mechanized cavalry's doctrine, organization, and equipment to each participant as the conference began. The group discussed each of these questions in turn and occasionally proposed new issues. Only six questions dealt with the mission, doctrine, and future role of mechanized cavalry, but there were forty-six questions on organization and equipment. During the discussion, the conferees used Reed's charts, which displayed the proposed mechanized cavalry regiment and its subordinate elements.<sup>100</sup>

Visiting officers unanimously approved the board's recommendation to drop the term "reconnaissance" from the title of the troops and squadrons. They also approved General Gay's recommendation to drop the term "mechanized" from the unit title. Thereafter, the corps cavalry unit proposed by the General Board was simply called a cavalry regiment.<sup>101</sup> The visiting officers unanimously approved most of the recommended organization and equipment changes. In several cases, the former group commanders and General Board staff officers proposed useful refinements to the organization, its equipment, or the text in the report. Two issues specifically related to the

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<sup>100</sup> United States Forces General Board, European Theater, Agenda, Conference on Mechanized Cavalry Units, 27 November 1945, File General Board, Box April 1945-January 1946. William S. Biddle Papers, MHI. General Board, Minutes of Conference, 2-3. General Board, List of Questions to Be Considered at Conference on Mechanized Cavalry Units, 27 November 1945, File General Board, Box Papers, April 1945-January 1946. William S. Biddle Papers, MHI.

<sup>101</sup> General Board, Minutes of Conference, 2.

cavalry regiment drew the most spirited discussion: increasing the number of riflemen and antitank firepower in a cavalry squadron.<sup>102</sup>

The issue that drew the most discussion was the composition of the cavalry squadron and the inclusion of riflemen. The inclusion and composition of the light tank company and assault gun troop caused little discussion except to rename the latter as a howitzer troop. However, the squadron Reed proposed had two cavalry troops and one dragoon troop. Most of the participants believed strongly in a triangular organization and believed that a squadron should have three troops just as a regiment required three squadrons. They did not share Biddle and Reed's concern that a seven troop squadron would be unwieldy, nor did they think that a regiment of 3,500 was too large. Although the board assumed that each regiment would have three squadrons and that the regimental commander could relieve troops using troops from the regimental reserve, the visiting officers did not want to assume that a cavalry regiment would have three squadrons for sure or that one of the squadrons might be detached. In both of these cases, it would be better to have a squadron based upon a triangular organization with the capacity to form its own reserve. The officers decided to retain the dragoons in both the scout platoons and in a separate dragoon troop at squadron level, while adding a third cavalry troop to the squadron. Shortly after the conference, General Patton approved this change.<sup>103</sup>

Strangely, Biddle and Reed did not make antitank power an issue for discussion or a major dimension of the study. This is odd in light of the criticism of the Army

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<sup>102</sup> Ibid., 6-10. A third issue discussed at some length—but not considered here because it was not directly related to the corps cavalry regiment—was the composition of a mechanized cavalry brigade and division. During the Rhineland Campaign the 3rd and 16th Cavalry Groups had been combined into the provisional 316th Mechanized Cavalry Brigade. An appendix in the General Board report described this, but nothing ever came of the idea. General Board, *Mechanized Cavalry Units*, appx. 19.

<sup>103</sup> General Board, *Minutes of Conference*, 4-6.

because of the weakness of American tanks. It is also odd given their personal experience. Biddle knew from his own experience and his survey of after action reports that corps routinely attached tank destroyer units to mechanized cavalry groups in order to make up for their inability to kill enemy tanks. Reed was wounded at Lunèville in September 1944 trying to delay a powerful *Fifth Panzer Army* assault against the shoulder of the XII corps bridgehead over the Moselle River. As mentioned earlier, his 2nd Cavalry Group had no organic weapon that could knock out Panther or Tiger tanks. Preparing for the conference, Biddle and Reed listed more than twenty questions covering almost every key piece of equipment—including vehicles, crew served and individual weapons, radios, and wire communications—but they did not include a single question about the tanks in a mechanized cavalry squadron or tank killing capability.<sup>104</sup>

After the discussion of the other issues, General Holly, “expressed concern over the fact that apparently no weapon was being provided in the proposed cavalry organization which was suitable for meeting heavy armor.”<sup>105</sup> Colonel Biddle responded that expected improvements in recoilless weapons and light tanks would meet this requirement. He and Reed were committed to maintaining cavalry’s mobility by keeping it lightly equipped. For this reason, they did not consider equipping future cavalry units with a slower tank with less range and higher fuel consumption like the M26 Pershing even though it had a much more powerful 90mm gun. Reed agreed with Holly that the 75mm gun in the M24 Chaffee light tank was not a proper antitank gun, but noted that it had nevertheless killed heavy German tanks during the war. Thus, it appeared technically

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<sup>104</sup> David E. Johnson, *Fast Tanks and Heavy Bombers: Innovation in the U.S. Army, 1917-1945* (Ithaca: Cornell University Press, 1998), 193-201. Cole, *The Lorraine Campaign*, 220-21. General Board, List of Questions, 3-4. General Board, Minutes of Conference, 8-10.

<sup>105</sup> General Board, Minutes of Conference, 10.

feasible that a sufficiently lethal gun could be developed for light tanks. The maneuverability, range, and speed of the M24 had been essential in combat and had allowed the cavalry to operate in spite of the presence of enemy heavy tanks. The visiting officers unanimously agreed that the cannon in the M24 was inadequate and that every effort should be directed towards placing an effective antitank cannon in the light tank.<sup>106</sup>

During this discussion, Biddle suggested that a light tank destroyer like the M18 Hellcat could also meet this requirement. However, a colonel from the General Board's artillery section revealed that tank destroyers would probably disappear as a separate arm. A former squadron commander suggested temporarily including M18s still in the inventory within the light tank troop. Although Reed argued against this based on his experience, the board decided that there was a temporary requirement for a lightweight tank destroyer in the cavalry squadron until a more lethal light tank was available.<sup>107</sup>

Following the conference, Colonel Reed updated and completed the organization charts for the cavalry regiment proposed by the General Board (see figure 3). It had three squadrons, a headquarters troop, and a service troop. The strength of the regiment was 187 officers and 3,434 enlisted men. The regimental headquarters troop included an air-ground liaison section with nine planes and a large headquarters security platoon. The main elements in the service troop were a transportation platoon and a maintenance platoon. These platoons were divisible into three parts to support each of the three squadrons. Despite the fact that Reed moved administrative and logistics functions from

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<sup>106</sup> Biddle, "The General Board - European Theater," 10-11. General Board, Mechanized Cavalry Units, 13.

<sup>107</sup> Biddle noted that other tank destroyer models had struggled to keep up with mechanized cavalry units during rapid maneuvers. The M18 was the only one with sufficient mobility. Reed argued against combining the M21 and M18 in the same unit because the armor on the M18 was too thin even to operate with light tanks. General Board, Minutes of Conference, 10-11. General Board, Mechanized Cavalry Units, 21.

the squadrons to the regimental headquarters and the regimental service troop, the new squadrons were thirty-four percent larger than the wartime squadrons.<sup>108</sup> The broad design of the squadrons was similar to the reconnaissance squadrons that fought during the war, the key differences being the addition of a 197-man dragoon troop mounted in armored personnel carriers and the redesign of the assault gun troop as a howitzer troop. In addition, until the development of an armored car and a light tank with heavier armament, the howitzer troop was to include a platoon of six M18 tank destroyers. There were several significant differences within the other units as well. Since the squadrons were no longer expected to operate independently, their headquarters troops were smaller, and each cavalry troop had fewer administrative personnel. Nevertheless, the manpower of a cavalry troop increased because each scout platoon now included a mechanized rifle squad. The General Board reports for the infantry division and armored division used the same design.<sup>109</sup>

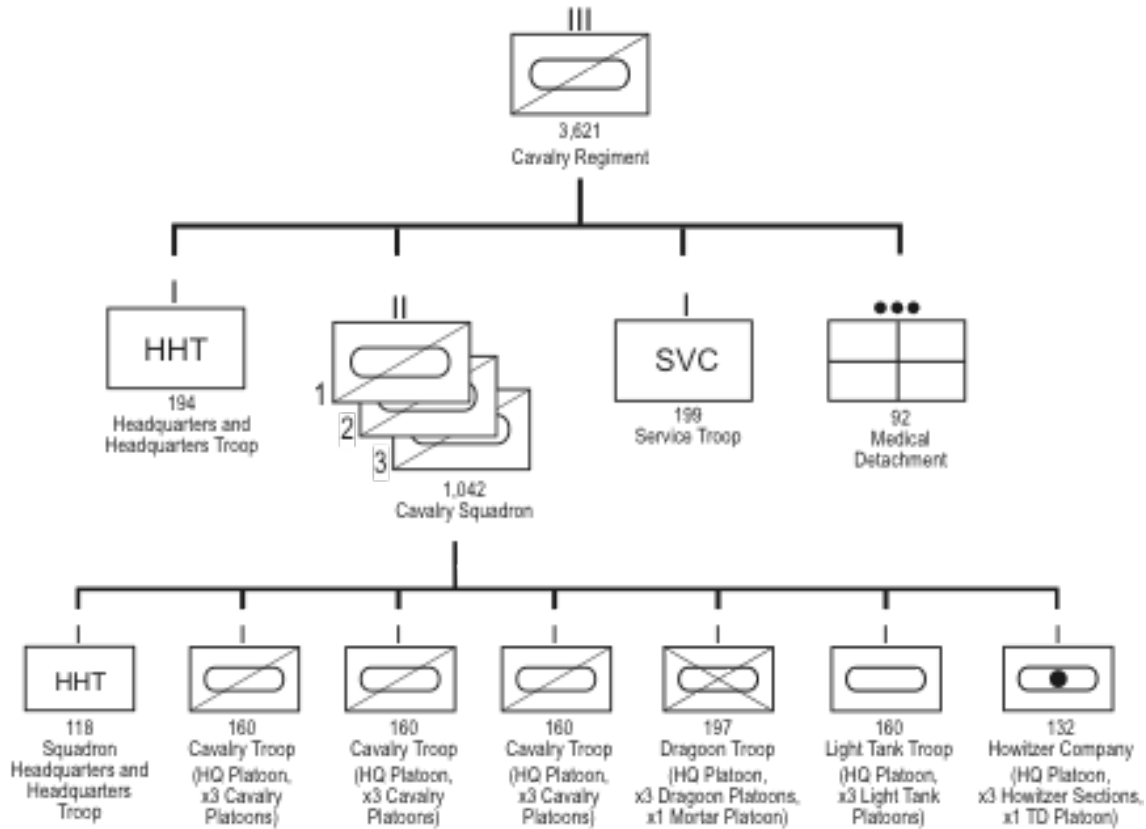
Colonel Reed completed detailed organization charts for each unit in the cavalry regiment down to troop level with an additional diagram of the scout platoon since it was a hybrid organization. He also completed for each unit a detailed summary of personnel, vehicles, and crew served weapons, although strangely, given their interest in riflemen, Reed did not include the numbers of rifles, a number that would normally have appeared

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<sup>108</sup> The strength of the wartime and the proposed squadrons were 777 and 1,042, respectively.

<sup>109</sup> The Ordnance Department developed several different armored personnel carriers during the war or shortly thereafter, including the M34 and M44 armored utility vehicles. General Board, Mechanized Cavalry Units, appx. 13, pp. 2, 3, 7-9. T/O&E 2-22 (1943). T/O&E 2-25 (1943). T/O&E 2-26, *Headquarters and Headquarters and Service Troop, Cavalry Reconnaissance Squadron, Mechanized* (Washington, D.C., 15 September 1943). T/O&E 2-27 (1 March 1943). General Board, The Infantry Division, appx. 10, p. 1. General Board, The Armored Division, appx. 7, p. 1.

# CAVALRY REGIMENT PROPOSED BY THE GENERAL BOARD, JANUARY 1946



**Figure 3. Cavalry Regiment Proposed by the General Board, January 1946<sup>110</sup>**

in such a table. The wartime mechanized cavalry units had been well equipped with crew served weapons, and their numbers, especially of machine guns, grew substantially in the proposed organization.<sup>111</sup>

Shortly after the conference, Lt. Col. Harry W. Candler finally arrived from the 11th Cavalry Group. At General Patton's request, the final report included fifteen historical examples, and Candler produced this appendix. Biddle completed the draft report with Candler's assistance and submitted it to General Holly on 20 December

<sup>110</sup> General Board, Mechanized Cavalry Units, appx. 13.

<sup>111</sup> Ibid., appx. 14.



shortly after Reed's departure. Even allowing for the fact that it was double spaced, the draft report was enormous. The chief of the armored section, the secretariat, and the acting president of the board, General Allen, approved the body of the report, but instructed Biddle to reduce the number and size of the appendices. Biddle and Candler reduced the text in the appendices so that they contained only brief extracts. They also reduced the number of historical examples and eliminated some background material such as lists of mechanized cavalry squadrons in armored divisions, troops in infantry divisions, tables of organization and equipment, and the text of Training Circular 107 in order to save space.<sup>112</sup>

Biddle also removed one potentially contentious appendix. Originally, it was his intention to discuss "how the mechanized cavalry got into the pure reconnaissance business" and he asked officers to whom he sent the questionnaire to comment on this if they had any information.<sup>113</sup> Colonel James Philips, the III Corps chief of staff, provided the answer in a letter to his West Point classmate, General Holly. Philips described his experience working for Army Ground Forces in the spring and summer of 1943 when Lt. Gen. Lesley J. McNair directed replacing the existing cavalry tactics with the reconnaissance technique found in Training Circular 107 and replacing the mechanized cavalry regiments with the group structure used by other supporting arms. Biddle chose to remove this appendix, probably to avoid creating a scandal unnecessarily, and thereby distracting readers from the recommendations in the report.<sup>114</sup>

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<sup>112</sup> Biddle, "The General Board - European Theater," 19-20.

<sup>113</sup> William S. Biddle, Letter to Col. Edward M. Fickett, 27 October 1945, File Correspondence, Sep 1945 - Jan 1946, Box Papers, Apr 1945 - Jan 1946. William S. Biddle Papers, MHI, 1.

<sup>114</sup> General Board, Mechanized Cavalry (Draft), appx. 4. Both Holly and Philips were members of the class of 1919 and both had served in the Mechanized Force at Camp Knox in 1932.

On 2 January 1946, with the final report almost complete, Biddle returned to the 102d Infantry Division and left Candler as the clean up man. By 7 January, Candler had the final report reproduced and sent the first two copies to Col. Biddle along with a letter in which he wrote, "When Gen Ike receives our report he can hand it to his staff and say 'see what I mean, this is the way it should be done.'"<sup>115</sup>

### **Influence of the Study**

Although George Patton appreciated the value of studying war, he did not enjoy leading a massive paper drill like the General Board after the challenge of leading armies in war. Two days after his relief from the command of Third Army and his arrival in Bad Nauheim, he grouched to his wife, Beatrice, "We are writing a lot of stuff no one will ever read."<sup>116</sup> This may have been true for some of the General Board studies, but the mechanized cavalry study had an immediate and lasting influence on the U.S. Army.

### **U.S. Constabulary**

By late 1945, the War Department and USFET Headquarters were examining ways to create a police style constabulary in Germany. The plan was to place Third Army in charge of the American Zone with a tactical force, composed of a corps, and a U.S. Constabulary of 38,000 soldiers. A specially trained Constabulary could better perform occupation duties and leave tactical units free to focus on training. In December, Biddle heard that the commander of Third Army, Lt. Gen. Lucian Truscott, intended to base the Constabulary on the mechanized cavalry style of organization and equipment. At

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<sup>115</sup> Biddle, Letter to Lt. Col. Samuel McC. Goodwin, 1. Harry W. Candler, Letter to Col. William S. Biddle, 7 January 1946, File General Board, Box April 1945-January 1946. William S. Biddle Papers, MHI, 1.

<sup>116</sup> Blumenson, *The Patton Papers*, 2:796.

Truscott's suggestion, the USFET commander, Gen. Joseph T. McNarney, selected Maj. Gen. Ernest N. Harmon to command the U.S. Constabulary. Like Truscott, Harmon was a former cavalryman. He had commanded a horse cavalry squadron at St. Mihiel in the First World War, and commanded the 1st, 2nd, and 3rd Armored Divisions in the Mediterranean and European Theaters. Truscott arranged for Biddle and Reed to join Harmon's Constabulary Planning Group in Frankfurt. In less than two weeks, this small group created tables of organization and equipment for the entire U.S. Constabulary, including its special troops, signal squadron, and the Constabulary School Squadron—twenty-three separate tables in all.<sup>117</sup>

The organization of the constabulary regiment was very similar to the cavalry regiment proposed by the General Board, with some key differences related to their specialized mission. The constabulary regiments had a headquarters troop, service troop, light tank troop, and three constabulary squadrons—a total strength of 3,279. The squadrons had no assault gun or light tank troops since the mission of the Constabulary did not require this much heavy firepower. Instead, Constabulary units required the ability to conduct mounted and dismounted patrols. Therefore, each squadron had a headquarters troop, three mechanized constabulary troops, and two motorized constabulary troops. The mechanized constabulary platoons used a mix of armored cars and jeeps similar to a mechanized cavalry platoon though lighter. The motorized constabulary platoons consisted of a jeep and three 1 1/2 ton trucks, each carrying a

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<sup>117</sup> Ziemke, *Occupation of Germany*, 341. William S. Biddle, Letter to Maj. Thomas P. Hollowell, 2 January 1946, File Correspondence, Sep 1945 - Jan 1946, Box Papers, Apr 1945 - Jan 1946. William S. Biddle Papers, MHI, 2. Ernest N. Harmon, Milton MacKaye, and William Ross MacKaye, *Combat Commander: Autobiography of a Soldier* (Englewood Cliffs, New Jersey: Prentice-Hall, 1970), 280. William S. Biddle, Memorandum to Lt. Col. L. B. Babcock, 4 April 1947, File Correspondence - 1946-1948, Box 11th Constabulary Regiment, 1946-1947. William S. Biddle Papers, MHI, 1. Circular 326, *Section VI, Recission--T/A's and T/O&E's* (Washington, D.C., 19 October 1948).

squad. The service troop and regimental headquarters troop were similar to the cavalry regiment proposed by the General Board down to the number and type of aircraft in the air-ground liaison section. However, the headquarters of a constabulary regiment had no requirement for a security platoon, and instead had a motorcycle platoon and a horse platoon.<sup>118</sup>

After the theater commander, General McNarney, approved the tables, Biddle carried them to the Pentagon in mid February to expedite approval by the War Department and official publication. Biddle carried a personal note from McNarney to the new Chief of Staff of the Army, Dwight Eisenhower, requesting expeditious handling.<sup>119</sup> He was surprised when he reached the Pentagon to find “questions vital to the future of our Army apparently being considered and even decided without the benefit of the General Board studies, simply because those studies had not arrived.”<sup>120</sup> As he wrote later, “The most important thing about a report is to get it read.”<sup>121</sup> Unfortunately, the General Board decided to submit all of the reports at once, which meant that completed studies sat in Bad Nauheim waiting for the last ones to be finished. Fortunately, Biddle had with him two copies of the mechanized cavalry study and was “able to get the report read by quite a few officers in the Pentagon, including some important people.”<sup>122</sup>

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<sup>118</sup> T/O&E 20-211T, *Constabulary Regiment* (Washington, D.C., 20 March 1946). T/O&E 20-215T, *Constabulary Squadron* (Washington, D.C., 20 March 1946). T/O&E 20-217T, *Constabulary Mechanized Troop* (Washington, D.C., 20 March 1946). T/O&E 20-218T, *Constabulary Motorized Troop* (Washington, D.C., 20 March 1946).

<sup>119</sup> James M. Snyder, "The Establishment and Operations of the United States Constabulary, 3 October 1945 - 30 June 1947," (Historical Sub-Section G-3, United States Constabulary, 1947), 32.

<sup>120</sup> Biddle, "The General Board - European Theater," 23.

<sup>121</sup> Ibid., 22-23.

<sup>122</sup> Biddle, Letter to Col. Vennard Wilson, 1.

Biddle's intervention may have preserved a place for a corps cavalry regiment in the Army's future force structure. Already the War Department had organized several boards to consider the future structure and policies of the War Department and the Army. These met without the benefit of the findings from any of the General Board studies—another indictment on the delay in organizing the General Board. Meeting in the fall of 1945, the Patch Board and the Simpson Board had recommended the elimination of cavalry as a branch within the Army.<sup>123</sup> A War Department Equipment Board led by Gen. Joseph W. Stilwell met between November 1945 and January 1946 in order to recommend policies regarding the development of future equipment. The draft Stilwell Board report called for terminating further development of the armored car based upon the performance of the M8 Greyhound despite the development of a more capable armored car at Aberdeen Proving Ground. However, one of the "important people" who read the mechanized study was probably General Eisenhower, who Biddle had worked for during the invasion of North Africa and who he had to see in the course of his work to get the Constabulary tables of organization and equipment approved. Before approving the Stilwell Board report in May 1946, Eisenhower restored a requirement for an "armored car for reconnaissance" in mechanized cavalry units.<sup>124</sup> Additionally, when the Armored Conference met at Fort Knox in May to consider the future organization, equipment, and tactics of armor and cavalry units, the participants referred to the General Board studies. The conference committees approved many of the recommendations in the

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<sup>123</sup> "Gen. Simpson Heads Reorganization Board," *Army and Navy Journal* 83, no. 16 (15 December 1945): 521, 548. Simpson Board, Report of Board of Officers on Organization of the War Department, 28 December 1945, File Simpson Board Report, Box 65, Entry 16, RG 337, NA, 3.

<sup>124</sup> Cullum, *Register of Graduates*, Vol. 9, 94. U.S. War Department, War Department Equipment Board Report (Stilwell Board), 29 May 1946, File 319.1, Box 4, Entry 31A, RG 337, NA, i, 13, 18. According to a note in the introduction of the final report, the Chief of Staff's modifications were indicated in italicized type. Snyder, "The United States Constabulary," 32.

mechanized cavalry study, including the structure of a cavalry squadron and the development of an improved armored car.<sup>125</sup> By allowing key people to read the report, Biddle ensured that it influenced the decisions about the future. After a few weeks leave in San Antonio and a visit to the Cavalry School at Fort Riley, Biddle returned to Germany where he assumed command of the 11th Constabulary Regiment.<sup>126</sup>

### **Armored Cavalry Regiment (Light)**

The constabulary regiments served for two years in Germany during an increasingly tense time in Europe. In 1948, the first Berlin Crisis prompted the Department of the Army to publish new tables of organization and equipment for its major combat forces. In October, it published a table of organization and equipment for a new organization, the Armored Cavalry Regiment (Light). Because of the rising tensions in Germany and the reduced requirement for the U.S. Constabulary, four of the nine constabulary regiments reorganized as armored cavalry regiments before the end of the year and the 3rd Mechanized Cavalry Group, which was based at Fort Meade, Maryland, also reorganized.<sup>127</sup>

An Armored School text identified the General Board study as the basis for the

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<sup>125</sup> "Armored Conference," *Army and Navy Register* 67, no. 3468 (25 May 1946): 6. Organization Committee Armored Conference, Question No. Organization-10, 21 May 1946, File 337 - The Armored Conference, Box 8, Entry 31A, RG 337, NA. Equipment Committee Armored Conference, Question No. Equipment-10, 21 May 1946, File 337 - The Armored Conference, Box 8, Entry 31A, RG 337, NA. For an explicit reference to the General Board, see the minority report to Organization Committee Armored Conference, Question No. Organization-7, 16 May 1946, File 337 - The Armored Conference, Box 8, Entry 31A, RG 337, NA.

<sup>126</sup> Biddle, Memorandum to Lt. Col. L. B. Babcock, 2. While at Fort Riley, Biddle presented lectures on the General Board and the U.S. Constabulary to students at the Cavalry School.

<sup>127</sup> T/O&E 17-51, *Armored Cavalry Regiment (Light)* (Washington, D.C., 7 October 1948). Mary Lee Stubbs, and Stanley Russell Connor, *Armor-Cavalry, Part I: Regular Army and Army Reserve*, Army Lineage Series (Washington, D.C.: Center of Military History, 1969). By the end of 1948, five regiments existed: the 2nd, 6th, 11th, and 14th ACRs in Germany and the 3rd ACR at Fort Meade, Maryland.

new organization. Oddly, the term reconnaissance slipped back into the title of the subordinate units within the regiment. However, the emphasis in doctrine was on security missions, consistent with the findings of the mechanized cavalry study. Field Manual 17-95, *The Armored Cavalry Regiment and the Armored Cavalry Reconnaissance Battalion*, described the characteristics and employment of the new type of regiment. The chapter addressing security operations was twice the length of the reconnaissance chapter and appeared earlier in the manual. (In every U.S. Army cavalry regulation or manual published between 1918 and 1945, the chapter on reconnaissance had always preceded the security chapter.) The same emphasis was evident in order of the missions in a description of the armored cavalry regiment's primary role: "to engage in security, light combat, and reconnaissance missions."<sup>128</sup> A separate chapter in FM 17-95 described each of the five general missions that the General Board had proposed: security, reconnaissance, offensive combat, defensive combat, and special operations.<sup>129</sup>

The way that FM 17-95 discussed reconnaissance also reflected the conclusions of the mechanized cavalry study: "Reconnaissance, counterreconnaissance, and security complement one another and cannot be readily separated. Good ground reconnaissance assures simultaneously a certain amount of counterreconnaissance, or security."<sup>130</sup> Gone was the unsound reconnaissance technique described in Training Circular 107. "In executing these missions the regiment engages in any type of combat necessary, and

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<sup>128</sup> Armored School, *Armored Cavalry Regiment (Light) Organizational Charts (War) January 1949* (Fort Knox, Kentucky: 1949), 1. FM 17-95, *The Armored Cavalry Regiment and the Armored Cavalry Reconnaissance Battalion* (Washington, D.C., 7 September 1951), 1, 3.

<sup>129</sup> An additional chapter addressed retrograde operations, probably reflecting experience in Korea (the manual was published in September 1951) and the anticipated mission of units based in West Germany. FM 17-95 (1951), chs. 3-9.

<sup>130</sup> *Ibid.*, 158.

frequently must fight for information.”<sup>131</sup>

The triangular design of the regiment reflected most of the recommendations in the mechanized cavalry study (see figure 4). The three reconnaissance battalions had a headquarters company, three cavalry companies, a medium tank company, and a howitzer battery.<sup>132</sup> They did not have a dragoon troop, but a squad of riflemen was included within each reconnaissance platoon. The additional riflemen and the small size of the regiment (2,883) satisfied study recommendations, but it was a heavier organization in other respects. Despite Eisenhower’s modification of the Stilwell Board report and the recommendation of the Armored Conference, the Army terminated development of the M38 Wolfhound armored car in the summer of 1946. Rather than a light tank troop, each squadron had a medium tank company, and light tanks replaced the armored cars in the reconnaissance platoons. Despite this increase in weight, Biddle and Reed were both pleased. Biddle described the new regiment as “a highly useful and effective unit.”<sup>133</sup>

Military innovation usually brings to mind discarding the old to make way for the new. However, based upon the recommendations of the mechanized cavalry study, the Army put this in reverse. It abandoned a recent operational concept designed specifically

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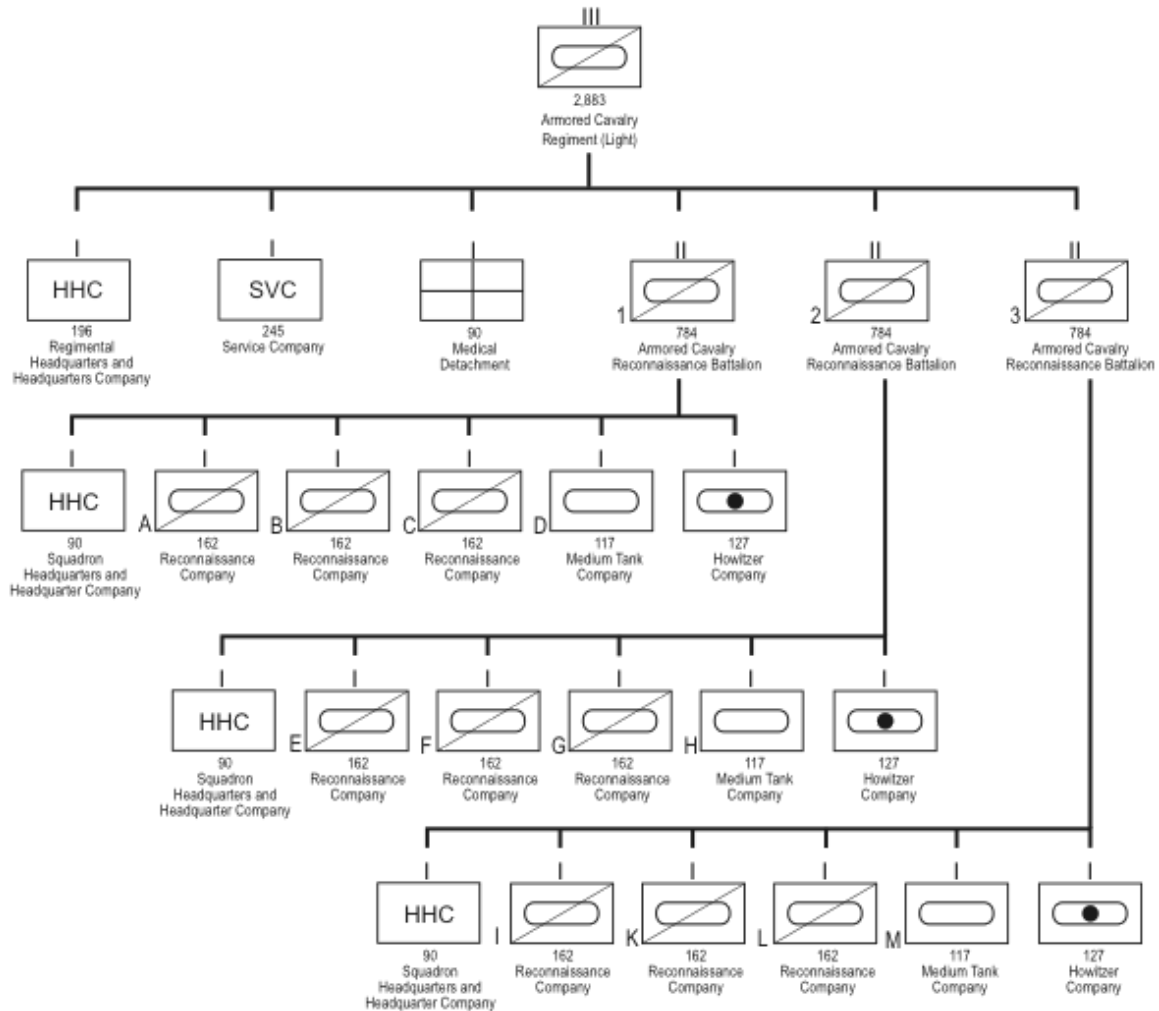
<sup>131</sup> Ibid., 159.

<sup>132</sup> For some odd reason, the Army reverted to using battalion and company rather than squadron and troop in the official designation of these units. This was not fixed until 1960. T/O&E 17-51D, *Armored Cavalry Regiment* (Washington, D.C., 1 March 1960).

<sup>133</sup> Armored School, *Armored Cavalry Regiment (Light)*, 8, 10. T/O&E 17-95 (1948). William S. Biddle, Letter to Wyndham K. White, 9 August 1949, File General Board, Box Papers, Apr 1945 - Jan 1946. William S. Biddle Papers, MHI, 1. Charles H. Reed, "Armored Cavalry Light: Its Organization as Derived from Its Missions," *Armored Cavalry Journal* 58, no. 1 (January-February 1949): 17.



## ARMORED CAVALRY REGIMENT (LIGHT), OCTOBER 1948



**Figure 4. Armored Cavalry Regiment, 1948<sup>134</sup>**

for the new mechanized cavalry, and resurrected traditional horse cavalry concepts that had proven their value once again. As Maj. Gen. Clarence R. Huebner, the V Corps commander and a former infantryman, wrote to the board, “This war, more than any other, has demonstrated that the traditional role of Cavalry has not changed.”<sup>135</sup>

Therefore, when armored cavalry regiments were organized in 1948, the design for this type of regiment was based upon operational concepts that had successfully guided the

<sup>134</sup> T/O&E 17-95 (1948).

<sup>135</sup> General Board, Mechanized Cavalry (Draft), appx. 17, p. 1.

employment of horse cavalry starting in the American Civil War. These regiments performed well over the next sixty years in Vietnam, Germany, Kuwait, and Iraq, and served as a model for a brigade sized modular force during several decades where the organization of combat arms within the Army was in regiments or battalions that were composed of a single arm rather than a combined arms team. Thus, the General Board's mechanized cavalry study had a profound and enduring impact on the U.S. Army.<sup>136</sup>

## **Conclusion**

The immediate impact and long influence of this study clearly illustrate the value of studying combat experience systemically. The significance of the General Board's recommendations obtained from the fact that it examined mechanized cavalry doctrine, training, organization, and equipment holistically rather than limiting its scope to one of these domains. The difficulties that mechanized cavalry units had experienced conducting dismounted operations and opposing enemy armor were organizational and equipment issues that were inextricably linked to doctrine. No single domain—doctrine, training, organization, or equipment—could have been examined as successfully in isolation from the others. The study's principal conclusions addressed each of these domains in an integrated manner, which gave the report greater coherence, influence, and significance.

The mechanized cavalry report enabled the Army to learn from combat operations in order to adapt its force structure for a future war against the Soviets in Central Europe. Operational learning and organizational adaptation are core elements of Systemic Operational Design—a methodology whose characteristics inspired the U.S. Army to include a less philosophical and more practical description of design in its doctrine.

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<sup>136</sup> Brigadier General (Retired) Huba Wass de Czege, e-mail message to author, 24 January 2011.

However, the chapter about design in FM 5-0, *The Operations Process*, neglects to mention the idea that design should lead a commander to change his own organization.<sup>137</sup>

This idea was captured in the February 2009 draft of Field Manual-Interim (FMI) 5-2,

*Design:*

The commander must describe broadly and conceptually how to generate desirable change. In order to resolve a complex problem situation, *an adaptive commander will change his own organization*. Thus, generating change has two components: actions to intervene within the operational environment to resolve a problem situation and *the construction or adaptation of an organization well-matched for this intervention*.<sup>138</sup>

This omission of this idea in approved doctrine was unfortunate because it is an essential core aspect of successful design. Changes to the coalition command structure, intelligence sharing, and information management in Afghanistan after the arrival of Gen. Stanley A. McChrystal in June 2009 offer an excellent illustration of this idea and its value in practice.

In an era of persistent conflict, the U.S. Army should routinely conduct holistic studies of its units and operating systems during combat. Over the course of the last decade, the U.S. Army has gained considerable combat experience. Training and Doctrine Command has several organizations that study individual domains and one that conducts studies of future warfare, but each of these efforts are limited in scope compared to the studies conducted by the General Board. They are also directed and conducted separately; integration amongst them is haphazard.

Fundamental changes to the Army's force structure within the last decade make a holistic study of units and operating systems even more important. Today's modular

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<sup>137</sup> FM 5-0, *The Operations Process* (Washington, D.C., 2010), ch. 3. See especially paragraph 3-7, which does not mention organizational change.

<sup>138</sup> FMI 5-2 (Draft), *Design* (Washington, D.C., 20 February 2009), 12 (emphasis added).

formations are the product of the Army After Next program, which Training and Doctrine Command conducted in the late 1990s.<sup>139</sup> This study examined the challenges of future warfare, organization, doctrine, equipment, leader development, and training in an integrated manner, but there has not been a similarly thorough study to examine how well today's modular units have met the challenge. For example, the reconnaissance squadron in each heavy brigade combat team is structured for reconnaissance with a minimum of combat, much like the mechanized cavalry units during the Second World War.<sup>140</sup> Yet, brigade commanders routinely employ this squadron as a combat maneuver element in training and combat operations—eerily similar to the way corps commanders violated doctrine in 1944-1945 during their employment of mechanized cavalry units. The design and doctrine of the mechanized cavalry units was found wanting; what will the Army discover about today's cavalry squadrons if it studies the combat operations of heavy brigade combat teams? This and other questions should be examined systemically to facilitate operational learning and organizational adaptation as described in FMI 5-2.

The results of the mechanized cavalry study were significant, but the history of the General Board's mechanized cavalry study also illustrates the resources requisite for successful learning. Professional soldiers like William Biddle and Henry Reed, who are experts in the topic of a study, must conduct it. In order to base their conclusions on facts, they must have access to participants and useful historical records. The format and timing of the report must be designed to influence existing institutional processes for changing

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<sup>139</sup> Army After Next was the predecessor of the current UNIFIED QUEST program conducted by the Army Capabilities Integration Center's Future Warfare Division.

<sup>140</sup> FM 3-20.96, *Reconnaissance and Cavalry Squadron* (Washington, D.C., 12 March 2010), table 1-1, par. 3-73, 3-74.

doctrine, organization, training, leader development, materiel, personnel, and facilities.<sup>141</sup>

Prior planning for such a study—something not done well in 1945—can ensure that the required resources are available and that the final report facilitates operational learning and organizational adaptation.

Either the Army Service Component Command or the Army Force Command within a theater of operations should plan for organizing assessment boards like the General Board before operations begin. If examining a contingency operation or a major operation that concludes within a fixed period, the work of a board should begin as soon as combat operations are over. Even more ideal would be to conduct the study during combat operations. This ideal is a more suitable model for studying “persistent” operations that have no clear end. In each case, prior planning is required because of the enormous pressure to redeploy soldiers at the end of a contingency operation or a unit rotation. USFET experienced this type of pressure after VJ Day, and it nearly hamstrung Colonel Biddle’s efforts by reducing his access to suitable assistants and key sources of information. Plans must resource such studies adequately while memories are still fresh.

Comprehensive historical records are also crucially important. The records created by tactical units during fast moving operations in 1944-1945 established a strong factual basis for the mechanized cavalry study. Army Regulation 870-5, *Military History: Responsibilities, Policies, and Procedures* is the modern version of Army Regulation 345-105. However, it does not require units to maintain a historical record of their operations during a campaign.<sup>142</sup> Yet, without this type of factual record, the Army’s

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<sup>141</sup> Examples of such systems are the Joint Capabilities Integration Development System (JCIDS) and Total Army Analysis (TAA).

<sup>142</sup> AR 870-5, *Military History: Responsibilities, Policies, and Procedures* (Washington, D.C., 21 September 2007), 9-11.

efforts to learn and adapt will be based upon anecdote, opinion, and journalism rather than fact. Creating and maintaining comprehensive historical records is challenging in combat. However, regiments, groups, and separate squadrons did this during fluid operations in the Second World War with typewriters, correction fluid, and mimeographs. It will be easier with automated command and control systems and word processors, but the desire must exist to create and exploit factual historical records. The lack of such a feedback mechanism embedded at the brigade, battalion, and squadron level will frustrate efforts to learn from current operations to support organizational adaptation and reframing as described in FM 5-0.<sup>143</sup>

The conduct and influence of the General Board's mechanized cavalry study offer a useful example of operational learning. The U.S. Army should resource and conduct such systemic studies of combat operations to affect how it organizes, trains, and equips the future force. The immediate impact and long influence of the mechanized cavalry report clearly illustrate the value of studying combat experience systemically.

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<sup>143</sup> FM 5-0 (2010), par. 3-68 thru 3-71.

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Abbreviations used in citations and bibliography:

CARL	Combined Arms Research Library, Fort Leavenworth, Kansas
FM	Field Manual
MHI	Military History Institute, Carlisle Barracks, Pennsylvania
NA	National Archives and Records Administration, College Park, Maryland
RG	Record Group
T/A	Table of Allowance
TC	Training Circular
T/O&E	Table of Organization and Equipment

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